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## REFERENCE GUIDE

Compaq Armada M300 Series of Personal Computers

Second Edition June 2000

Part Number 170706-002

**Compaq Computer Corporation**

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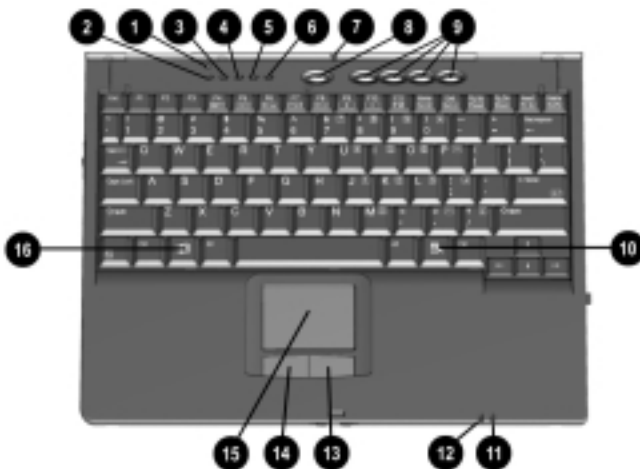


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# chapter 1

## TAKING A LOOK AT THE COMPUTER

### Top Components



### Top Components

Component	Function
❶ Display switch	Turns off the computer display if the computer is closed while on.
❷ Hard drive light	On: The primary hard drive is being accessed.
❸ Diskette drive light	On: The external diskette drive is being accessed.

*Continued*

## Top Components *Continued*

Component	Function
④ Num lock light	On: Num lock is on and the embedded numeric keypad is enabled.
⑤ Caps lock light	On: Caps lock is on.
⑥ Scroll lock light	On: Scroll lock is on.
⑦ Internal microphone	Supports audio input when the display is open or closed.
⑧ Suspend button**	Initiates and exits Suspend.* When pressed with the <b>Fn</b> key, initiates Hibernation.
⑨ Easy Access Buttons (available on select models)	Allow direct access to predefined files, programs, or websites.
⑩ Windows application key	Displays shortcut menu for item beneath mouse cursor.
⑪ Battery light	On: The battery pack is charging. Blinking: The battery pack that is the only available power source has reached a low-battery condition.
⑫ Power/suspend light	On: Power is turned on. Off: Power is turned off. Blinking: Computer is in Suspend.* <b>NOTE:</b> The power/suspend light also blinks if a battery pack that is the only source of power available to the computer reaches a critical low-battery condition while Hibernation is disabled.
⑬ Right-click button	Functions like the right-click button of an external mouse.
⑭ Left-click button	Functions like the left-click button of an external mouse. Used with the TouchPad, drags and highlights.
⑮ TouchPad	Moves the mouse cursor, selects, and activates.
⑯ Microsoft logo key	Displays Windows Start menu.

\*In Windows 98 the term *Standby* replaces the term *Suspend*.

\*\*In Windows 98 the term *sleep button* replaces the term *suspend button*.

# Left Side Components



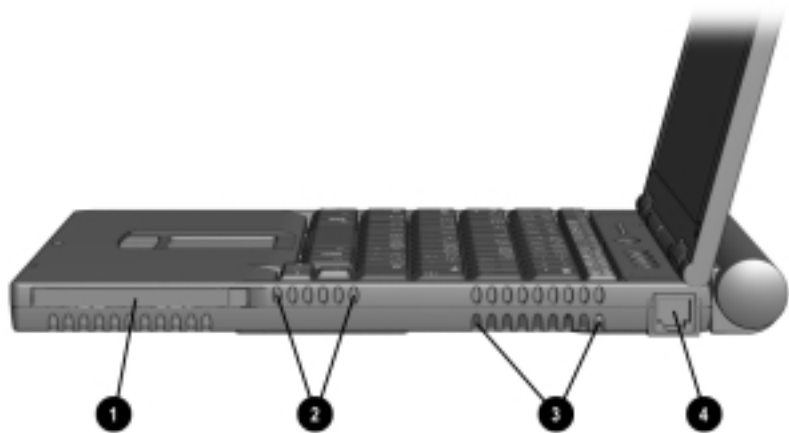
## Left Side Components

Component	Function
❶ RJ-45 jack*	Connects the network cable. <b>NOTE:</b> A network cable is included with network models.
❷ Power connector	Connects the AC power adapter.
❸ Power button	Turns the computer on or off or exits Suspend.
❹ Vents	Cools internal components.
❺ Security cable slot	Attaches an optional security cable to the computer.
❻ Hard drive bay	Holds primary hard drive.



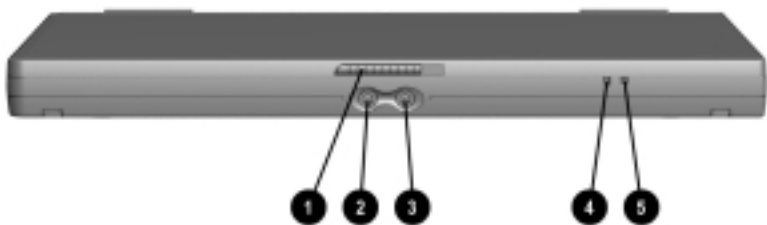
**\*WARNING:** To reduce the risk of electric shock, fire, or damage to the equipment, do not plug a telephone cable into the Ethernet RJ-45 jack.

# Right Side Components



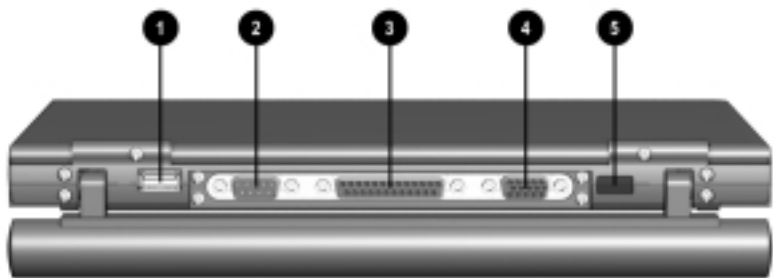
Right Side Components	
Component	Function
❶ PC Card slot	Supports 32-bit (CardBus) and 16-bit PC Cards.
❷ Air intake vents	Cool internal components.
❸ Air exhaust vents	Cool internal components.
❹ RJ-11 jack (internal modem models only)	Connects the modem cable to an internal modem. <b>NOTE:</b> A modem cable is included with internal modem models.

# Front Components



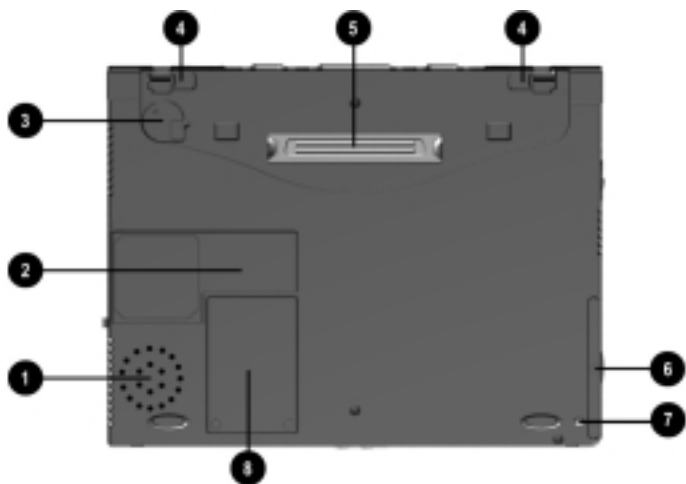
Front Components		
Component	Function	
❶ Display release latch	Opens the computer.	
❷ Stereo speaker/headphone jack	Connects stereo speakers, headphones, or headset audio.	
❸ Microphone jack	Connects a single sound channel microphone.	
❹ Power/suspend light	On: Power is turned on. Off: Power is turned off. Blinking: Computer is in Suspend. <b>NOTE:</b> The power/suspend light also blinks if a battery pack that is the only source of power available to the computer reaches a critical low-battery condition while Hibernation is disabled.	
❺ Battery light	On: A battery pack is charging. Blinking: A battery pack that is the only available power source has reached a low-battery condition.	

# Rear Components



Rear Components	
Component	Function
❶ USB connector	Connects USB devices.
❷ Serial connector	Connects a serial device.
❸ Parallel connector	Connects a parallel device.
❹ External monitor connector	Connects an external monitor, overhead projector, or TV adapter.
❺ Infrared port	Links to another IrDA-compliant device for wireless communication.

# Bottom Components



Bottom Components

Component	Function
❶ Speaker	Produces sound.
❷ Serial number	Identifies computer; needed when you call Compaq customer support.
❸ Real-time clock battery	Provides battery power to automatically display the date and time.
❹ Battery latches	Releases the primary battery pack.
❺ 220-pin docking connector	Connects the computer to a docking base.
❻ Hard drive release latch	Releases a hard drive from the hard drive bay.
❼ Hard drive security screw	Secures hard drive in computer hard drive bay.
❽ Modem compartment	Provides access to the internal modem (modem models only).



## External Diskette Drive

The computer comes with an external diskette drive which can be used with floppy diskettes.



**CAUTION:** Electrostatic discharge can damage electronic components. Before touching the diskette drive, ensure that you are discharged of static electricity by touching a grounded metal object. Refer to Appendix C, “Electrostatic Discharge.”

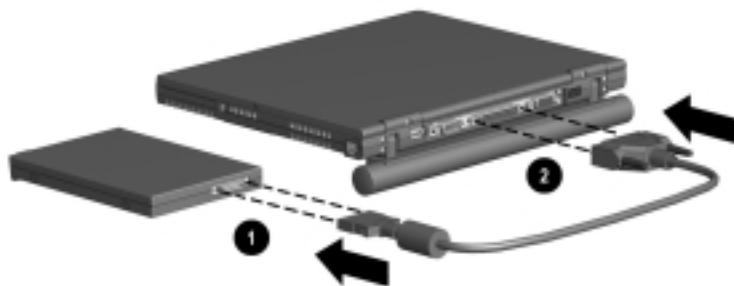
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**IMPORTANT:** If you are using Windows 95, Windows 98, or Windows NT 4.0 preinstalled by Compaq, you do not need to turn off the computer before connecting or disconnecting the external diskette drive to the computer. If you installed Windows 95, Windows 98, or Windows NT 4.0 that you purchased separately, you must obtain additional software from Compaq to support connecting or disconnecting the drive while the computer is on or in Suspend (Standby). For more information about the software, refer to the Compaq Internet site at <http://www.compaq.com>.

### Connecting the Diskette Drive

To connect the external diskette drive to the computer:

1. Attach the small end of the drive cable to the external diskette drive ❶.
2. Attach the large end of the drive cable to the parallel port on the rear of the computer ❷.



## Disconnecting the Diskette Drive

To disconnect the external diskette drive from the computer:

1. Remove the diskette from the diskette drive.
2. Unscrew the small end of the drive cable from the external diskette drive ❶.
3. Unscrew the large end of the drive cable from the parallel port on the rear of the computer ❷.



## Versatile Battery Pack

The primary battery pack is a multifunctional feature of the computer. In addition to providing portable power, it

- Creates a comfortable tilt for working at the keyboard. Fold the battery pack back and under the computer.
- Provides a cover for the rear connectors. Place the battery pack in a straight position while the computer is lying flat.

# chapter 2

## USING THE KEYBOARD

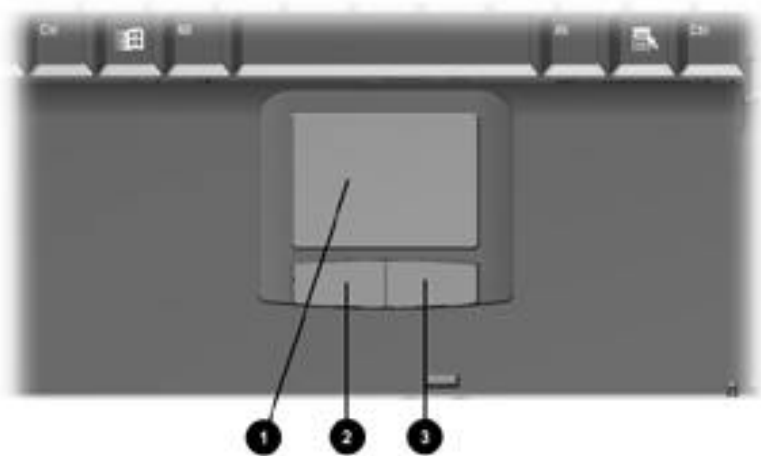
### Using the Pointing Device

The built-in TouchPad functions with any software that supports a Microsoft-compatible mouse.

NOTE: If you are using software that does not support a Microsoft-compatible mouse, select **Advanced → Device Options** in **Computer Setup**, then select the **Disable Multiple Pointing Devices** check box. For more information on running **Computer Setup**, please refer to Chapter 14.

### Identifying Keyboard Components

- ❶ TouchPad
- ❷ Left-click button
- ❸ Right-click button



## Navigating with the TouchPad

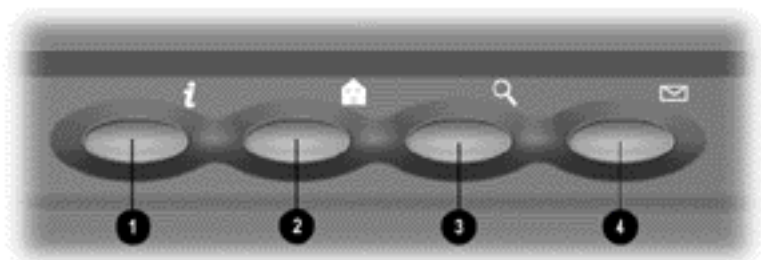
TouchPad Procedures	
Task	Procedure
Move the mouse pointer	Move your finger directionally across the TouchPad surface.
Increase or decrease cursor speed	Increase or decrease finger speed across the TouchPad surface.
Right-, left-, or double-click	Press the right- or left-click button as you would the corresponding click button on an external mouse.
Highlight an item*	Press down on the TouchPad as you move the mouse pointer over the item.
Select text or an object*	Position the mouse pointer over the highlighted text or object, then quickly tap the TouchPad once.
Activate a selection*	Position the mouse pointer over the selection, then quickly tap the TouchPad twice. NOTE: To select and activate a preference, first tap the preference once to select it, then tap the preference twice to activate it.
Select, then drag and drop an item*	Press down on the TouchPad as you move the mouse pointer over the item, then drag the item to the new location. To drop the item, release the pressure.
*To perform this task exactly as you would with an external mouse, use the left-click button like an external mouse left-click button.	

## Setting TouchPad Preferences

To access all TouchPad features and settings including mouse trails, cursor speed, double-click pace, and Windows 98 single-click mode, select Start→Settings→Control Panel→Mouse.





# Easy Access Buttons

The Easy Access Buttons located at the top of your keyboard provide quick access to the Internet. Before using these buttons, you must have Internet service.



The Easy Access Buttons are programmed to do the following:

## Easy Access Buttons

Component	Function
① 	<b>Information</b> —Direct link to Compaq Armada mobile user information for quick answers to your computer questions.
② 	<b>Home</b> —Internet start point. Connects to a personalized Web page filled with local weather, news, sports, and financial information.
③ 	<b>Search</b> —Opens the AltaVista search engine website which helps you locate information on the Internet.
④ 	<b>Email</b> —Provides one-touch access to your default Email application for sending and reading your Email.

### To use the Easy Access Buttons

- You must be connected to the Internet. Until you set up your Internet Service Provider (ISP), each Easy Access Button will launch the Compaq Internet Setup process.
- You do not have to be connected to your ISP to add, change, or delete schemes.
- You can also connect an external Compaq keyboard to the computer. When an external Compaq keyboard that has seven or eight Internet buttons is connected to your computer, the first four buttons on the external keyboard will automatically default to the Easy Access Buttons.

## Adding Easy Access Buttons Schemes

Schemes are a collection of up to four button assignments that you define. You can add additional schemes so that the buttons will perform different functions depending on which scheme is currently selected. There is no limit to the number of schemes that can be added, but the buttons will only work for the scheme that is currently selected.

To add a new scheme:

1. Double-click the Easy Access Buttons icon located on the Windows Taskbar  
OR  
Click Start → Settings → Control Panel → double-click Keyboard → click the Easy Access Buttons tab.
2. Click the Add button.
3. In the scheme box, type the name of the scheme to be added.
4. In the Button Name box, type the new name for the button being assigned.
5. In the Button Assignment box, type the name for the button being assigned.
6. In the Button Assignment box, enter the item to which you are assigning the button. To enter a button assignment
  - Type the file path or website address in the Button Assignment box.  
or
  - Use standard Windows procedures to copy a file path or website address elsewhere, then paste it onto the Button Assignment box.  
or
  - Select the browse button, then double-click the item.  
When the item displays in the File name box, select OK.
7. Repeat Steps 4 and 5 for each of the Easy Access Buttons you want to include in the new scheme.
8. Select the Apply or OK button.

## Changing Easy Access Buttons Schemes

To select a different scheme:

1. Double-click the Easy Access Buttons icon located on the Windows Taskbar  
OR  
Click Start → Settings → Control Panel → double-click Keyboard → click the Easy Access Buttons tab.
2. In the Scheme drop-down list in the scheme box, select the scheme that contains the button name or assignment being changed.
3. In the Button name column, select the icon of the button being changed.
4. To change the button name—select the Edit button beside the Button Name box, then type the new name into the Button Name box.
5. To change the button assignment—Enter the item to which you are assigning the button in the Button Assignment box. to enter a button assignment
  - Type the file path or website address in the Button Assignment box.  
or
  - Use standard Windows procedures to copy a file path or website address elsewhere, then paste it onto the Button Assignment box.  
or
  - Select the browse button, then double-click the item.  
When the item displays in the File name box, select OK.
6. Select the Apply or OK button.

## Deleting Easy Access Buttons Schemes

NOTE: The default schemes can not be deleted. Only the schemes defined by you can be deleted.

To delete a scheme:

1. Double-click the Easy Access Buttons icon located on the Windows Taskbar  
OR  
Click Start → Settings → Control Panel → double-click Keyboard → click the Easy Access Buttons tab.
2. In the Scheme drop-down list box, select the name of the scheme you want to delete.  
  
NOTE: Schemes must be deleted one at a time.
3. Click the Delete button.
4. Click OK.

## Programming the External Keyboard Internet Buttons

If a Compaq external keyboard with seven or eight Internet buttons is connect to your computer, the first four Internet buttons automatically default to the Easy Access Buttons schemes. You can program the remaining external keyboard Internet buttons or change the Easy Access Buttons to match the first four Internet buttons on the external keyboard.

To program the remaining external keyboard Internet buttons:

1. Double-click the Easy Access Button icon located on the Windows Taskbar  
OR  
Click Start → Settings → Control Panel → double-click Keyboard → click the Easy Access Buttons tab.
2. Click Internal and select the type of external keyboard you have connected to the computer.
3. Click on Add, then enter the name of the filenames, programs, or websites you want assigned to the remaining buttons on the external keyboard.
4. Click Apply.

To change the Easy Access Buttons on the computer to match the first four button schemes on the External keyboard:



1. Double-click the Easy Access Button icon located on the Windows Taskbar  
OR  
Click Start → Settings → Control Panel → double-click Keyboard → click the Easy Access Buttons tab.
2. Click Internal.
3. Click on Add, then enter the name of the filenames, programs, or websites you want assigned to the four Easy Access Buttons.
4. Click Apply. The Easy Access buttons on the computer are programmed to be the same as the first four buttons on the external keyboard.

## Using Hotkeys

Hotkeys are preset combinations of the Fn key ❶ plus a second key that take you to frequently used system functions. The icons on the function keys (F1-F10) ❷ represent these functions.

- **To use hotkeys on an external keyboard** which does not have an Fn key, press the Scroll Lock key twice, then the second key only of the hotkeys combination. For example, to use the Fn+F3 hotkeys, press Scroll Lock+Scroll Lock+F3 .

NOTE: The Fn+F6 (Initiate Quick Controls) hotkeys cannot be used on an external keyboard connected through a USB connector.

- **To close a window opened with hotkeys**, use standard Windows procedures or press the hotkeys again.



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### Hotkeys Quick Reference

---

Task	Hotkeys
Switch the display and image	Fn+F4
Adjust system volume	Fn+F5
Initiate Quick Controls	Fn+F6
Set a power conservation level	Fn+F7
View battery charge status	Fn+F8
Adjust screen brightness	Fn+F10
Display system information	Fn+Esc
Stretch text	Fn+T

---

## Switching the Display and Image

**In Windows 95 or Windows NT 4.0** toggle Fn+F4 to switch the image among the computer display, an external display, and simultaneous display. The external display can be connected through the external monitor connector.

**In Windows 98** toggle Fn+F4 to switch the image between the computer display and an external display that is connected through the external monitor connector.

- When MultiMonitor is enabled, press Fn+F4 to turn off the external display and disable MultiMonitor.

- When MultiMonitor is disabled, toggle Fn+F4 to switch the image among the computer display, the external display, and simultaneous display.

## Adjusting System Volume

- To adjust system volume with an onscreen slide button or with the keyboard arrow keys, press Fn+F5.
- To mute or restore volume
  - Press Fn+F5+M
  - or
  - Press Fn+F5, then select or clear the Mute checkbox.

## Initiating Quick Controls

Quick Controls security features disable the keyboard and pointing device and clear the screen. Before you can use Quick Controls, you must set a power-on password and enable Quick Control preferences. For instructions, refer to Chapter 11.

- To initiate Quick Controls manually, press Fn+F6.
- To exit Quick Controls, enter your power-on password.

The Fn+F6 hotkeys cannot be used on an external keyboard connected through a USB connector on the computer or an optional docking base.

## Setting a Power Conservation Level

**In Windows 98** press Fn+F7 to open the Power Schemes window.

**In Windows 95 or Windows NT 4.0** press Fn+F7 to open the Battery Conservation Settings window.

- To select a preset battery conservation level, choose among
  - **High**—Maximizes running time from a single charge.
  - **Medium**—Balances system performance with running time.
  - **None (Drain)**—Runs the computer at full power.
- For information about the Custom level, refer to “Using Power Preferences” in Chapter 3.

## Viewing Battery Charge Status

Press Fn+F8 to view the status of all installed battery packs. Battery packs are listed by location.

- To display the location of a listed battery pack, select the corresponding battery icon.
- A lightening bolt icon beside a battery icon indicates that the battery pack in that location is charging.

## Adjusting Screen Brightness

Press Fn+F10 to adjust the brightness of the computer screen with an onscreen slide button or with the arrow keys.

## Displaying System Information

Press Fn+Esc to display information about system hardware components and software version numbers.

NOTE: The number beside System BIOS is the version number of your system ROM.

## Stretching Text

When the computer is running MS-DOS under Windows and the desktop area resolution is set lower than the display resolution, press Fn+T to toggle the image between Text Stretch, which stretches the text to fill more of the screen, and Regular. Text Stretch is the default. While Regular is selected, a graphics accelerator cannot be enabled.

## Enabling the Eurocurrency Symbol

Your computer can generate the Eurocurrency symbol when pressing the Alt Gr+4, 5, e, or u key combinations. The key combination for your computer is dependent on the keyboard for your country and the keyboard language settings in the operating system. On keyboards without the Alt Gr (alternate graphics) key, use the Alt key to the right of the spacebar.

## Using the Embedded Numeric Keypad

### Toggle the Keypad On and Off

- To convert the embedded numeric keypad section ❶ of the computer keyboard to a numeric keypad, press Fn+Num Lk ❷.
- When the embedded numeric keypad is enabled, the characters upper-right on the keypad keys are active and the Num Lk light ❸ is on.
- To disable the embedded numeric keypad, toggle Fn+Num Lk.
- The embedded numeric keypad cannot be enabled while an optional external keyboard or numeric keypad is connected to the computer.



## Operating the Keypad Keys as Standard Keys

To use the embedded numeric keypad keys as standard keyboard keys while the keypad is enabled:

- Press and hold **Fn** to type in lowercase.
- Press and hold **Fn+Shift** to type in uppercase.

## Enabling the Keypad at Startup

To set the computer to start up with the embedded numeric keypad enabled:

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears in the upper-right corner of the screen.
  - To change the language, press **F2**.
  - For navigation instructions, press **F1**.
2. Select **Advanced** → **Device Options**, then press **Enter**.
3. Toggle the field beside **Num Lock State at Boot** to **On**, then press **F10**.
4. To save your preferences, close **Computer Setup**, and restart the computer, select **File** → **Save Changes and Exit**, then press **Enter**.
5. When you are prompted to confirm your action, press **F10**.

To disable the embedded numeric keypad at start up, repeat the above procedure with the Num Lock State at Boot field toggled Off.

NOTE: The embedded numeric keypad can be enabled or disabled with Fn+Num Lk in either startup state.

# chapter 3

## MANAGING POWER

### Selecting a Power Source



**WARNING:** To reduce the risk of personal injury, electric shock, fire, or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
  - Plug the equipment into a grounded (earthed) electrical outlet that is easily accessible at all times.
  - Disconnect power from the equipment by unplugging the power cord from the electrical outlet.
  - Do not place anything on power cords or cables. Arrange them so that no one may accidentally step on or trip over them.
  - Do not pull on a cord or cable. When unplugging from the electrical outlet, grasp the cord by the plug.
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## Selecting a Power Source

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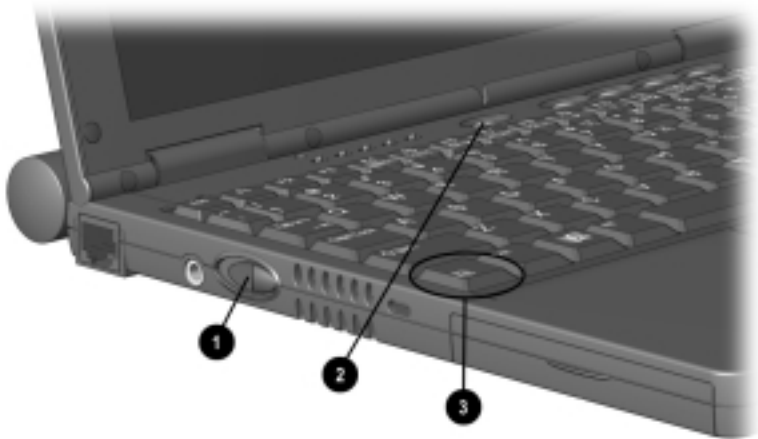
Task	Recommended Power Source
Work within installed software applications	<ul style="list-style-type: none"><li>■ Charged battery pack inserted into the computer</li><li>or</li><li>■ External power supplied through<ul style="list-style-type: none"><li>■ AC Adapter</li><li>■ Optional docking base</li><li>■ Optional Automobile Power Adapter/Charger or</li><li>■ Optional Aircraft Power Adapter</li></ul></li></ul>
Charge a battery pack in the computer	<p>External power supplied through</p> <ul style="list-style-type: none"><li>■ AC Adapter</li><li>■ Optional docking base</li><li>■ Optional Automobile Power Adapter/Charger</li></ul>
Calibrate a battery pack	<p>External power supplied through</p> <ul style="list-style-type: none"><li>■ AC Adapter</li><li>■ Optional docking base</li></ul>
Modify system software	External power supplied through the AC Adapter

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# Beginning, Leaving, or Resuming Your Work

You will observe the power button ❶, Suspend button ❷, Fn key ❸, and the power/suspend light as you turn the computer on or off or place it in **Suspend (Standby)** or **Hibernation**.

- **Suspend**, called **Standby** in Windows 98, is an energy-saving feature that reduces power to system components that are not being used. When the computer is in Suspend (Standby), your work is saved in random access memory (RAM) and the screen is cleared.
- **Hibernation** is an energy-saving feature that saves all information in RAM to a hibernation file on the hard drive, then shuts down the computer.



If you are leaving your work, consider:

**If you plan to resume shortly**—Initiating Suspend (Standby) clears the screen, uses less power than leaving the computer on, and your work returns instantly to the screen when you press the suspend button. A fully charged battery pack can support Suspend (Standby) for up to a week, but frequent charging and discharging may shorten battery pack life.

**If the computer will be disconnected from external power for more than two weeks**—To extend the useful life of the battery pack, shut down the computer, then remove the battery pack and store it in a cool, dry place.

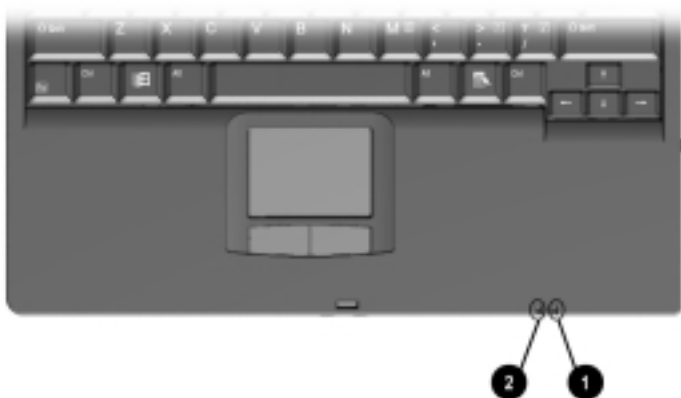
**If you plan to resume within two weeks**—Initiating Hibernation clears the screen, saves your work to the hard drive, and uses less power than Suspend (Standby). A fully charged battery pack supports Hibernation indefinitely.

Beginning, Leaving, or Resuming Your Work		
Task	Procedure	Result
Turn the computer on	Press power button.	Power/suspend* light turns on. Operating system loads.
Turn the computer off	Click Start→Shut Down.	Power/suspend* light turns off. Operating system closes and turns off all power. Computer turns off.
Initiate Suspend*	<ul style="list-style-type: none"> <li>■ Press suspend button.**</li> <li>or</li> <li>■ Select Standby (Windows 98 only) on the Shut Down menu.</li> </ul>	Power/suspend* light blinks. System beeps twice. Screen clears.
Exit Suspend*	<ul style="list-style-type: none"> <li>■ Press suspend button.**</li> <li>or</li> <li>■ Press power button.</li> </ul>	Power/suspend* light turns on. System beeps once. Your work returns to the screen.
Initiate Hibernation	Press <b>Fn +</b> suspend button.**	Power/suspend* light turns off. System beeps twice. Screen clears.
Restore from Hibernation	Press power button.	Power/suspend* light turns on. System beeps once. Your work returns to the screen.
*In Windows 98 the term <i>Standby</i> replaces the term <i>Suspend</i> .		
**In Windows 98 the term <i>sleep button</i> replaces the term <i>suspend button</i> .		

# Managing Low-Battery Conditions

## Identifying Low-Battery Conditions

- When a battery pack that is the only source of power available to the computer reaches a low-battery condition
  - The system beeps 5 times.
  - The battery light ❶ blinks.
- If the low-battery condition is not resolved, the computer will enter a *critical* low-battery condition. In a *critical* low-battery condition,
  - **If Hibernation is enabled and the computer is on or in Suspend (Standby)**—The computer beeps twice, then initiates Hibernation. Hibernation is enabled by default.
  - **If Hibernation is disabled and the computer is on or in Suspend (Standby)**—The computer beeps twice, and the power/suspend light ❷ blinks. The computer remains *briefly* in Suspend (Standby), then shuts down and your unsaved work is lost.



## Resolving Low-Battery Conditions

- **If external power is available, do one of the following—**
  - Connect the computer to an electrical outlet with the AC Adapter.
  - Dock the computer and mobile expansion unit in a docking base that is connected to external power.
  - Plug an optional Automobile Power Adapter/Charger into the power connector on the computer and into a vehicle cigarette lighter receptacle.
  - Plug an optional Aircraft Power Adapter into the power connector on the computer and into the in-seat power supply available on some commercial aircraft.

**NOTE:** An optional Aircraft Power Adapter can be used to run the computer but cannot be used to charge a battery pack.

- **If a charged battery pack is available—**Save your work, shut down the computer, then remove the discharged battery pack and insert a charged battery pack.
- **If neither external power nor a charged battery pack is available—**
  - Press **Fn +** suspend button to initiate Hibernation  
or
  - Save your work, then shut down the computer.

## Restoring from Hibernation After Resolving a Critical Low-Battery Condition

Press the power button. If the computer does not have enough power to restore your work,

1. Press **Ctrl+Alt+Del** to abort the restoration.
2. Attach a charged battery pack or connect the computer to external power.
3. Press the power button.

## Charging a Battery Pack

When a battery pack is installed in the computer or an optional Battery Charger or docking base, the battery pack is charged whenever external power is available.

**NOTE:** Charging may be delayed if a battery pack is new, has not been used for 2 weeks or more, or is much warmer or cooler than a comfortable room temperature.

■ If you are charging the battery pack in the computer—

- External power can be supplied to the computer from an external power source.

**NOTE:** An optional Aircraft Power Adapter cannot be used to charge a battery pack.

- The battery light, shown below, turns on while the battery pack is charging and turns off when the battery pack is fully charged.



- **To increase the accuracy of all battery charge displays—**
  - Allow a battery pack to discharge to the low-battery level through normal use before charging it.
  - When you charge a battery pack, charge it fully.
  - Before charging a new battery pack or a battery pack that has not been used for 2 weeks or more, calibrate the new battery pack or check the calibration on the unused battery pack.

## Monitoring the Charge in a Battery Pack

**NOTE:** The references in Windows 98 battery charge displays to a “standard APM battery pack” apply to all battery packs that can be used in the computer.

### Using the Battery Charge Level Lights

The battery quick check feature enables you to monitor the charge in the primary battery pack.

- To display the percent of a full charge remaining in a battery pack, press the button on the battery pack.
- Each battery charge level light represents a percentage of a full charge. For example, when all lights are on, the battery pack is fully charged.

### Using the Battery Status Tab

To access the Battery Status tab, select Start→Settings→Control Panel→power icon (named Power, Power Management, Compaq Power Properties, or Power Options, depending on your operating system)→Battery Status tab.

- To display the location of a listed battery, select the corresponding battery icon.
- A lightning bolt icon beside a battery icon indicates that the battery pack in that location is charging.

## Using the Battery Meter or Power Meter Icon

The battery meter icon, called the power meter icon in Windows 98 and Windows 2000 Professional, indicates whether the computer is running on external power or on a full, half-full, or nearly discharged battery pack.

To display the battery meter icon in the taskbar

- **In Windows 95** select Start→Settings→Control Panel→Power→Battery Status tab, then select the Show Battery Meter on the Taskbar check box.
- **In Windows 98** select Start→Settings→Control Panel→Power Management→Power Meter tab, then select the Show Power Meter on the Taskbar check box.
- **In Windows NT 4.0** the battery meter icon displays in the taskbar by default. In addition, you can select Start→Settings→Control Panel→Compaq Power Properties→Advanced tab.
- **In Windows 2000 Professional** select Start→Settings→Control Panel→Power Options→Power Meter tab, then select the Show Battery Meter on the Taskbar check box.

When the battery meter or power meter icon is displayed in the taskbar, the icon can also be used as follows.

### In Windows 95, Windows 98, and Windows 2000 Professional—

Task	Procedure
View the total battery power remaining in the system.	Rest the cursor over the icon.
Enable/disable an on-screen critical low-battery warning.	Left-click the icon, select or clear the Enable Low Battery Warning check box, then select OK.
Access the Power tab in the Power Properties window.	Right-click the icon, select Adjust Power Properties, then press <b>Enter</b> .
Open battery meter in a popup window.	Double-click the icon.
Display charge information as a percent of a full charge or as the run time remaining.	Left-click the icon, then select your preference in the popup window.



Task	Procedure
View the total battery power remaining in the system.	Rest the cursor over the icon.
Open the Compaq Power Properties window.	Double-click or right-click the icon.

### Using the Power or Power Meter Tab

The power tab, called the power meter tab in Windows 98 and Windows 2000 Professional, is available in Windows 95, Windows 98, and Windows 2000 Professional.

- To access the tab
  - **In Windows 95** select Start→Settings→Control Panel→Power→Power tab.
  - **In Windows 98** select Start→Settings→Control Panel→Power Management→Power Meter tab.
  - **In Windows 2000 Professional** select Start→Settings→Control Panel→Power Options→Power Meter tab.
- To view the combined percent of total power remaining in all battery packs in the system, clear the Show the Status of All Batteries check box.
- To view the percent of total power remaining in each battery pack in the system, select the Show the Status of All Batteries check box.

# Calibrating a Battery Pack

Calibration increases the accuracy of all battery charge displays.

The calibration utility supports all battery packs that can be used in the computer.

Use the calibration utility both to check the calibration of a battery pack and to calibrate or recalibrate a battery pack.

- A battery pack cannot be calibrated unless the utility reports that it needs calibration.
  - A new battery pack can be charged, then used to run the computer before the battery pack is calibrated. However, the amount of charge in the new battery pack cannot be reported accurately until the new battery pack has been calibrated.
  - Check the calibration of a used battery pack periodically and whenever battery charge displays seem inaccurate.
- While a battery pack is being calibrated, it is fully charged, then fully discharged.
  - A battery calibration icon in the taskbar displays an Up arrow during the charge phase and a Down arrow during the discharge phase.
  - A calibration cannot resume if the calibration is stopped or if the computer is shut down during a calibration. An interrupted calibration must be restarted.
  - After calibration, a battery pack must be charged before it can be used to run the computer.
- The calibration utility calibrates one battery pack at a time and can run in the background as you use the computer or overnight.



**CAUTION:** To prevent loss of work, ensure that the computer remains connected to AC power throughout a calibration.

---

## Running a Calibration

1. **To check the calibration of a battery pack**—Attach the battery pack to the computer or insert a battery pack into the MultiBay of the mobile expansion unit. If you insert the battery pack into the expansion unit's MultiBay, connect the computer and expansion unit system to external power.

**To calibrate a battery pack**—Attach the battery pack to the computer. Then connect the computer to external power with the AC Adapter or dock the computer and mobile expansion unit in a docking base that is connected to external power

2. Access the Battery Calibration tab.
  - **In Windows 95** select Start→Settings→Control Panel→Power→Compaq Power tab.
  - **In Windows 98** select Start→Settings→Control Panel→Power Management→Compaq Power tab.
  - **In Windows NT 4.0** select Start→Settings→Control Panel→Compaq Power Properties→Compaq Power tab.
  - **In Windows 2000 Professional** select Start→Settings→Control Panel→Power Options→Compaq Power tab.
3. Select the battery to be calibrated. If the battery needs to be calibrated, the Calibrate button will be displayed.
4. Click the Calibrate button to start calibration.

Once the calibration utility starts, you can close the Power Options Properties dialog box and monitor the progress of the calibration through the icon in the system tray.

## Stopping a Calibration

Shut down the computer or select the Stop Calibration button on the Compaq Power tab. The Stop Calibration button is visible only during a calibration.

# Changing the Primary Battery Pack

The primary battery pack is the battery pack attached to the computer.

**NOTE:** For information on using a battery pack in the mobile expansion unit MultiBay, refer to Chapter 5.



**CAUTION:** If the computer is on, you must initiate Hibernation or shut down power before removing or installing the battery pack. Failure to do so will result in loss of information.

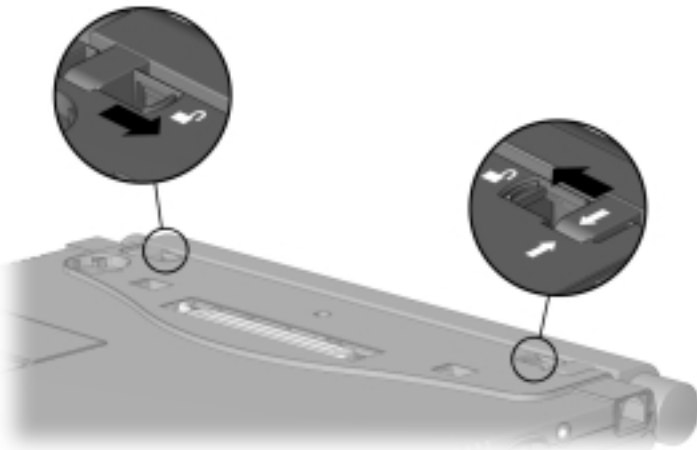


**WARNING:** To reduce the risk of personal injury or damage to the battery pack, do not crush, puncture, or incinerate the battery pack or short the metal contacts. Do not attempt to open or service the battery pack.

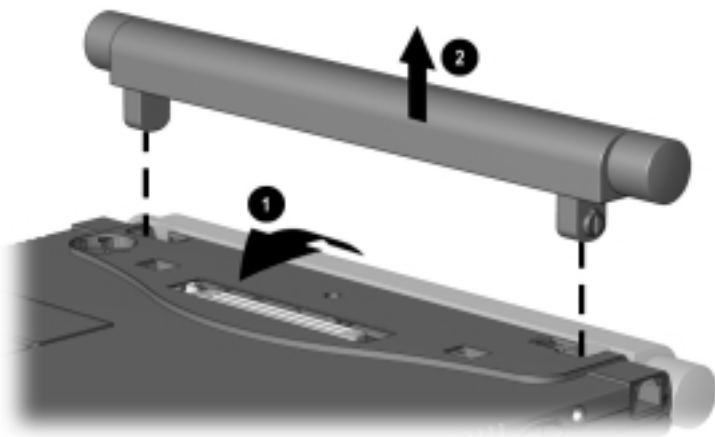
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## Removing the Primary Battery Pack

1. If the computer is on, save your work and initiate Hibernation or shut down the computer.
2. Turn the computer bottom side up and tilt the battery pack so it lies flat (covering all ports on the rear of the computer).
3. Slide in the two battery latches toward each other.

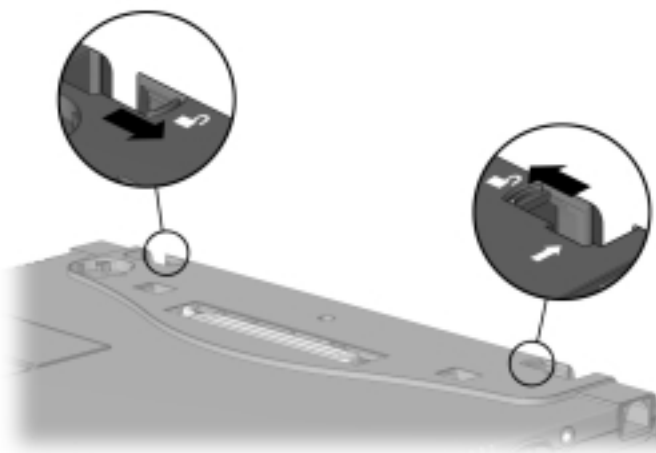


4. Rotate the battery pack 90 degrees ❶, and lift up the battery pack from the computer ❷.

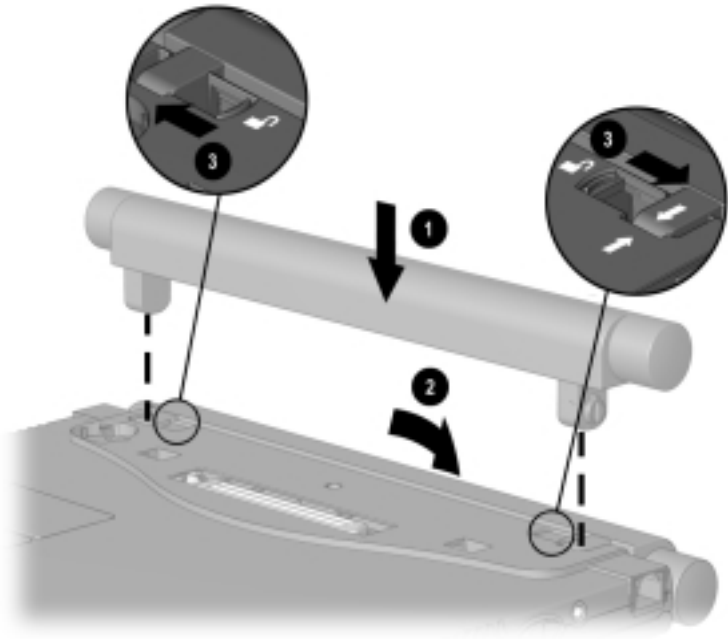


### Installing the Primary Battery Pack

1. If the computer is on, save your work and initiate Hibernation or shut down the computer.
2. Turn the computer bottom side up.
3. Slide in the two battery latches toward each other.



4. Push the battery pack onto the computer until the contacts connect ❶, and rotate the battery pack 90 degrees toward the back of the computer ❷.
5. Slide the two battery latches out (away from each other) ❸.



## Storing the Battery Pack



**CAUTION:** To prevent damage to a battery pack, do not expose it to high temperatures for extended periods of time.

If the computer will be unused and unplugged from an external power source for more than two weeks, remove and store the battery pack(s).

Proper storage procedures reduce the self-discharge rate of a battery pack. Store a battery pack in a cool, dry place within the following temperature ranges.

Recommended Battery Pack Storage Temperatures		
Storage Time	Temperature Range°F	Temperature Range °C
Less than 1 month	32°–122°	0°–50°
No more than 3 months	32°–104°	0°–40°
Unlimited	32°– 86°	0°–30°

## Using Power Preferences

You can increase, decrease, and allocate the power used by the computer by setting power preferences.

- Increasing power increases performance, while decreasing power conserves energy and extends the running time from a battery pack.
- By decreasing power to unused components and functions, you can allocate more power to the components and functions that you are using.

Many power preferences are **timeout** settings.

- A timeout is the period of inactivity before the system initiates a power change or reduces power to a component. For example, the computer is preset to initiate Suspend (Standby) after a period of inactivity. The time interval between when you stop using the computer and the onset of computer-initiated Suspend (Standby) is a Suspend (Standby) timeout.
- Depending on your operating system, you can set timeouts that are specific to various conditions, components, or procedures as well as specify the duration of those timeouts.

For additional power options, refer to your operating system documentation. For a summary of battery conservation settings that extend the running time from a single charge, refer to “Conserving Battery Power” later in this chapter.

The following tables list power procedures that are not described in your operating system documentation.

## Setting Power Preferences in Windows 95 or Windows NT 4.0

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### Setting Power Preferences in Windows 95 or Windows NT 4.0

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Preferences	Procedure from Control Panel
<p>Select a preset level of power use that applies whenever the computer is running on a battery pack.</p> <p><b>NOTE:</b> A battery conservation level can also be displayed and selected with the <b>Fn+F7</b> hotkeys.</p>	<p>Select Power (or Compaq Power in Windows NT)→Battery Conservation Settings tab, then select a conservation level:</p> <ul style="list-style-type: none"><li>■ High provides maximum battery conservation.</li><li>■ Medium balances battery conservation and system performance.</li><li>■ None (drain) results in maximum battery drain because battery conservation is turned off. Recommended only for discharging the battery pack.</li></ul>
<p>Create a level of power use that applies settings for the following whenever the computer is running on a battery pack:</p> <ul style="list-style-type: none"><li>■ Suspend timeout</li><li>■ System idle timeout</li><li>■ Processor speed</li><li>■ Screen brightness</li><li>■ Screen save</li></ul>	<p>Select Power (or Compaq Power in Windows NT)→Battery Conservation Settings tab. Select Custom, then enter your preferences.</p> <p><b>NOTE:</b> Although a battery conservation level can be displayed and selected with the <b>Fn+F7</b> hotkeys, Custom level preferences must be entered on the Battery Conservation Settings tab.</p>
<p>In Windows NT, create a general level of power use that applies whenever the computer is running on external AC power. You can enter settings for</p> <ul style="list-style-type: none"><li>■ Screen save timeout</li><li>■ Hard drive timeout</li><li>■ Energy-saving monitor timeout</li></ul>	<ol style="list-style-type: none"><li>1. Select Compaq Power→AC Energy Saver tab.</li><li>2. Select the AC Energy Saver On button.</li><li>3. To set a screen save timeout, select a timeout in the Screen Save drop-down list.</li><li>4. To set a hard drive timeout, select a timeout in the Hard Disk Idle drop-down list.</li><li>5. To enable an external monitor to enter a low-power mode following a screen save timeout, select the Energy Save Monitor check box.</li></ol> <p><b>NOTE:</b> You will not be logged off a network when the monitor enters low-power mode.</p>
<p>Enable/disable low-battery warning beeps.</p>	<p>Select Power (or Compaq Power in Windows NT)→Battery Conservation Settings tab, then check the box to turn beeps on or uncheck the box to turn beeps off.</p>

*Continued*



## Setting Power Preferences in Windows 95 or Windows NT 4.0 *Continued*

Preferences	Procedure from Control Panel
Set Hibernation timeout.	Select Power (or Compaq Power in Windows NT) →Hibernation tab, then select a timeout from the Timeout drop-down list.  <b>NOTE:</b> This setting does not affect system-initiated Hibernation during a critical low-battery condition.
Exit Suspend after a user-selected timeout.	Select Power (or Compaq Power in Windows NT) →Resume Timer tab. Select the Enabled check box, then select a date from the Date drop-down list and a time from the Time drop-down list.
Set computer to initiate Hibernation rather than Suspend.	Select Power (or Compaq Power in Windows NT) →Hibernation tab, then select Standby in the Timeout drop-down list.
In Windows 95, turn off power to an optional PC Card modem.	Select Power→PC Card Modems tab, then select Turn Off Power to PC Card Modem When Not in Use check box.
Change location of Hibernation file.	Select Power (or Compaq Power in Windows NT) →Hibernation tab, then select the new location from the Drive for Hibernation File drop-down list.
Enable/Disable Hibernation.	Select Power (or Compaq Power in Windows NT) →Hibernation tab, then check the box to enable Hibernation or uncheck the box to disable Hibernation.  <b>CAUTION:</b> If the computer reaches a critical low-battery condition while Hibernation is turned off, unsaved work can be lost.

## Setting Power Preferences in Windows 98 or Windows 2000 Professional

**To access most power settings**—Select Start→Settings→Control Panel→Power Management (or Power Options for Windows 2000 Professional). For information about setting all Power Management settings except the following, refer to your Windows 98 or Windows 2000 Professional documentation.



**CAUTION:** If the computer reaches a critical low-battery condition while Hibernation is turned off, unsaved work will be lost.

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**To enable or disable hibernation**—Select the hibernation tab, then check the box to enable Hibernation or uncheck the box to disable Hibernation.

**To set a screen brightness level that applies when the computer is running on a battery pack**—Select Power Management (or Power Options for Windows 2000 Professional)→Battery Conservation Settings tab, then select a percent from the Brightness drop-down list.

**If you are accustomed to running Windows 95 or Windows NT 4.0 on a Compaq portable computer**—You will find most of the power options you formerly accessed in Power Properties in the Windows 98 Power Management Properties window or the Windows 2000 Professional Power Options window. However, in Windows 98 and Windows 2000 Professional

- Processor speed is managed by the operating system.
- The easiest way to turn off power to a PC Card is to remove the PC Card.
- The **Fn+F7** hotkeys open the Power Schemes window.
- The preferences you formerly set on the Resume Timer tab can be set at Start→Programs→Accessories→System Tools→Scheduled Tasks.

## Turning Auto Insert Notification On or Off

When using the computer with the mobile expansion unit, auto insert notification runs a CD-ROM or DVD-ROM on insertion in the expansion unit MultiBay, but drains power and prevents system-initiated Suspend (Standby). To turn off auto insert notification:

- **In Windows 95 or Windows 98** select Start→Settings→Control Panel→System→Device Manager→CD-ROM→Properties. Clear the CD-ROM Auto Insert Notification check box.
- **In Windows NT 4.0** select Start→Settings→Control Panel→Compaq Power→Battery Conservation Settings tab. Clear the CD-ROM Auto Insert Notification check box.

To turn on auto insert notification, access the CD-ROM Auto Insert Notification check box as instructed above, then select the check box.

## Changing the Processor Performance Mode (Available on Select Models)

Computer models that provide Intel Pentium III with SpeedStep technology allows you to enable an automatic change in processor speed when the power source changes between AC power and battery power.

The SpeedStep technology offers two preset performance modes:

- **In Maximum Performance mode**, the processor runs at full speed to provide maximum performance.
- **In Battery Optimized mode**, the processor runs at a reduced speed to provide optimal balance between energy conservation and performance.

The computer can run in either performance mode while it is running on AC power or on battery power.

## Changing Performance Modes

**Before the performance mode changes from Battery Optimized to Maximum Performance mode in Windows 95 or Windows NT 4.0** —You are prompted to restart the computer. The restart selection on the prompt restarts the computer and returns your work to the screen.

It is not necessary to restart the computer to change from

- Battery Optimized to Maximum Performance mode in Windows 98  
or from
- Maximum Performance to Battery Optimized mode in any operating system.

## Combining Performance Modes with Other Power Settings

The SpeedStep technology performance modes are independent of all other power settings available on the computer except the Custom processor speed settings available in Windows 95 and Windows NT 4.0.

**In Windows 95 or Windows NT 4.0 only—**

- Custom processor speed settings can be set by selecting Start→Settings→Control Panel→Power or Compaq Power Properties→Battery Conservation Settings tab→Custom.
- The Custom processor speed applies any time the computer is running on battery power.

## Setting SpeedStep Preferences

**NOTE:** If the SpeedStep window and icon are not accessible, they may be disabled in Computer Setup. To enable the window and icon, refer to Chapter 14 in this guide.

## Using the SpeedStep Window

**To open the SpeedStep window from the desktop—**

- **In Windows 95 or Windows NT 4.0,** select Start→Programs→Intel SpeedStep technology.
- **In Windows 98,** select Start→Settings→Control Panel→Power Management→Intel SpeedStep technology tab.

## Setting SpeedStep Preferences

Preference	Procedure
Assign a performance mode that applies any time the computer is running on battery power.	Select a performance mode from the drop-down list under Running on Batteries, then select OK.
Assign a performance mode that applies any time the computer is running on AC power.	Select a performance mode from the drop-down list under Plugged In, then select OK.
Set the computer to change between the assigned power modes whenever the power source changes.	Select the checkbox for Automatically Change Performance When the Power Source Changes, then select OK.
Set the computer to prompt for confirmation before initiating a performance mode change.	<ol style="list-style-type: none"> <li>1. Select the checkbox for Automatically Change Performance When the Power Source Changes.</li> <li>2. Select the checkbox for Ask me Before Automatically Changing Performance.</li> <li>3. Select OK.</li> </ol>
Set the computer to remain in the same performance mode even if the power source changes.	Select the same performance mode from the drop-down lists for Running on Batteries and Plugged In, then select OK.
Turn off the audible alert of a performance mode change.	<p>Select the Advanced button, then:</p> <ol style="list-style-type: none"> <li>1. Select the checkbox for Disable Audio Notification When Performance Changes.</li> <li>2. Select OK in the Advanced window.</li> <li>3. Select OK or Apply in the main SpeedStep window.</li> </ol>
Set the computer to change automatically between Maximum Performance mode while running on AC power and Battery Optimized mode while running on battery power <i>and</i> Disable all settings in the main SpeedStep window.	<p>Select the Advanced button, then:</p> <ol style="list-style-type: none"> <li>1. Select the checkbox for Disable Intel SpeedStep Technology Control.</li> <li>2. Select OK in the Advanced window.</li> <li>3. Select OK or Apply in the main SpeedStep window.</li> </ol>

*Continued*

<b>Preference</b>	<b>Procedure</b>
Enable all settings in the main SpeedStep window.	<p>Select the Advanced button, then:</p> <ol style="list-style-type: none"><li>1. Clear the checkbox for Disable Intel SpeedStep Technology Control.</li><li>2. Select OK in the Advanced window.</li><li>3. Select OK or Apply in the main SpeedStep window..</li></ol> <p><b>NOTE:</b> Under some circumstances, it may be necessary to restart the computer after completing this procedure.</p>
Remove the SpeedStep icon from the taskbar.	<p>Select the Advanced button, then:</p> <ol style="list-style-type: none"><li>1. Select the checkbox for Remove Icon from Taskbar.</li><li>2. Select OK in the Advanced window.</li><li>3. Select OK or Apply in the main SpeedStep window.</li></ol>

## Using the SpeedStep Icon

The SpeedStep icon displays on the taskbar by default and changes to indicate whether the computer is running in Maximum Performance or Battery Optimized mode. The icon can also be used for the following tasks:

<b>SpeedStep Icon Tasks</b>	
<b>Task</b>	<b>Procedure</b>
Display current performance mode.	Rest the pointer over the icon.
Open the SpeedStep window.	Double-click the icon.
Change the current performance mode.	Right-click the icon, then select a performance mode with the up or down arrow key.

# Conserving Battery Power

## Battery Power Conservation Checklist

- Exit modem applications and turn off local area network (LAN) connections when you are not using them.
- Disconnect external equipment you are not using that is not connected to an external power source.
- If you leave your work, initiate Suspend (Standby) or Hibernation or shut down the computer.
- Remove PC Cards you are not using.
- Use the **Fn+F10** hotkeys to quickly raise and lower display brightness as you work.
- Run the computer on external power while formatting a diskette.
- When using the computer with the mobile expansion unit and a CD-ROM or DVD-ROM drive is in the system, select Start→Settings→Control Panel→System→Device Manager→CD-ROM properties, then clear the CD-ROM Auto Insert Notification check box.

## Conserving Battery Power in Windows 95

- Select Start→Settings→Control Panel→Power. Then:
  - On the Battery Conservation Settings tab, select the High or Custom battery conservation level. If Custom is selected, enter lower settings.
  - On the Disk Drives tab, set a low When Powered by Batteries timeout for the disk drive.
  - If you are using a PC Card modem, select the PC Card Modems tab, then click the Turn Off PC Card Modems When Not in Use check box.
- If Infrared Monitor is enabled, select Start→Settings→Control Panel→Infrared→Options tab, then clear the Search for and Provide Status for Devices in range check box.

**IMPORTANT:** You cannot establish an infrared link while this check box is cleared. For more information about infrared, refer to Chapter 10.

## Conserving Battery Power in Windows 98

- Select Start→Settings→Control Panel→Power Management→Power Schemes tab, then create a power scheme that conserves battery power.
- Select Start→Settings→Control Panel→Power Management→Battery Conservation Settings. Then select a low screen brightness.
- Choose the Infrared icon in the task bar, select the Options tab, then clear the Search for and Provide Status for Devices in Range check box.

**IMPORTANT:** You cannot establish an infrared link while this check box is cleared. For more information about infrared, refer to Chapter 10.

## Conserving Battery Power in Windows NT 4.0

Select the Start button→Settings→Control Panel→Compaq Power Properties→Battery Conservation Settings tab, then select the High or Custom conservation level. If Custom is selected, enter lower settings.

## Conserving Battery Power in Windows 2000 Professional

Select the Start button→Settings→Control Panel→Power Options→Battery Conservation Settings tab, then select the High or Custom conservation level. If Custom is selected, enter lower settings.



## UPGRADING YOUR COMPUTER

### Memory

#### Managing Random Access Memory (RAM)

To view the amount of existing random access memory (RAM) in the system

- **In Windows 95, Windows 98, or Windows 2000 Professional** select Start→Settings→Control Panel→Compaq Diagnostics.
- **In Windows NT 4.0** select Start→Programs→Administrative Tools→Compaq Diagnostics.

You can increase RAM with optional memory expansion boards. For ordering information, go to the Compaq Internet site at <http://www.compaq.com> or refer to Appendix A to contact a Compaq authorized dealer, reseller, or service provider.

When RAM increases, the hard drive space reserved for the hibernation file also increases. Windows 98 and Windows 2000 Professional manage this increase. If the computer is running Windows 95 or Windows NT 4.0 and you experience problems with Hibernation after increasing RAM, verify that your hard drive has enough free space for the larger hibernation file.

- To view the amount of space required by a hibernation file
  - **In Windows 95** select Start→Settings→Control Panel→Power→Hibernation tab.
  - **In Windows 98** select Start→Settings→Control Panel→Power Management→Hibernation tab.

- In Windows NT 4.0 select Start→Settings→Control Panel→Compaq Power Properties→Hibernation tab.
- In Windows 2000 Professional select Start→Settings→Control Panel→Power Options→Hibernation tab.
- To view the amount of free space on your hard drive, select My Computer→right-click your hard drive→Properties.

## Removing or Inserting a Memory Expansion Board



**WARNING:** The memory compartment and the real time clock battery compartment are the only user-accessible internal compartments on the computer. All other areas that require a tool to access should be opened only by a Compaq authorized service provider.



**WARNING:** Failure to unplug the power cord and remove the battery pack before installing a memory expansion board can damage the equipment and expose you to the risk of electrical shock.



**CAUTION:** Electrostatic discharge (ESD) can damage electronic components. Before beginning this procedure, ensure that you are properly grounded. For more information, refer to Appendix C, “Electrostatic Discharge.”

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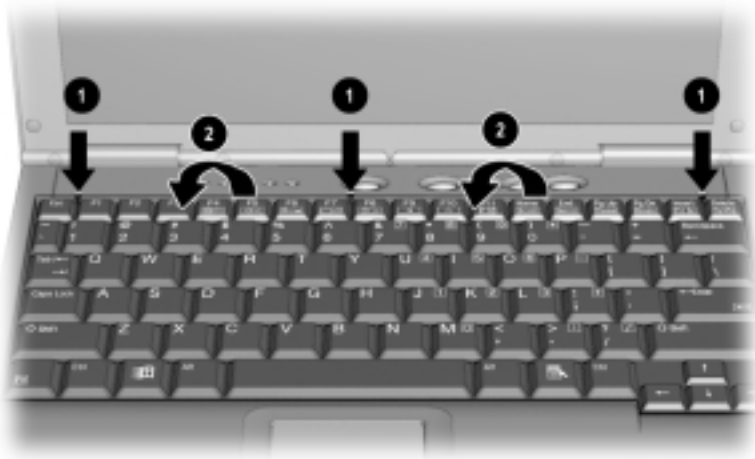
**NOTE:** There is only one memory expansion slot in the computer. Before upgrading memory, you must remove the memory board that came with the computer.

1. Shut down the computer.

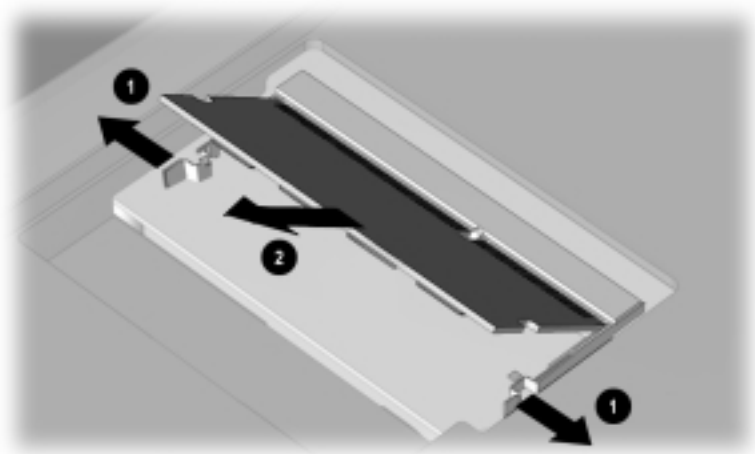
**NOTE:** To ensure that the computer is not in hibernation, turn the computer on, then shut it down.

2. Disconnect all external devices connected to the computer.
3. Disconnect the AC Adapter and remove the battery pack from the computer.

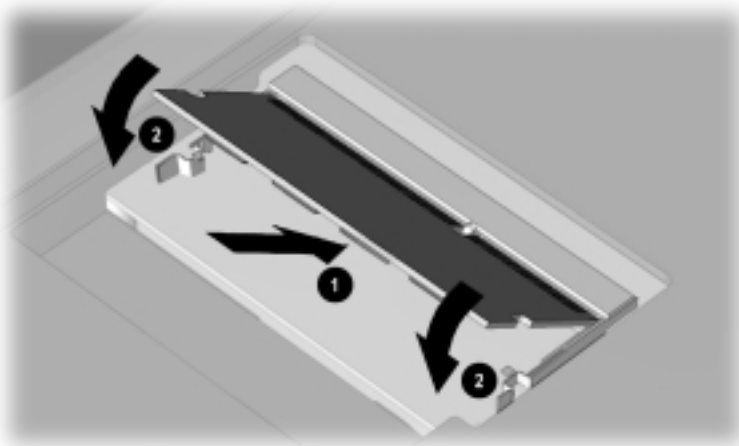
4. Gently press down on each of the three tabs along the top edge of the keyboard ❶, then lift along the top edge to raise the keyboard at a 45-degree angle from the computer ❷.



5. If applicable, turn back the memory insulator.
6. To remove the memory board, pull away the plastic retention clips on each side of the memory expansion board ❶. The memory expansion board tilts upward.
7. Lift the edge of the memory expansion board and slide it gently out of the memory expansion slot at a 45-degree angle ❷.



8. Place the removed memory expansion board in an electrostatic-safe container.
  9. To add a memory board, insert the memory expansion board into the empty memory expansion slot at a 45-degree angle ❶. Then slide it gently into place until it is seated while tilted.
- NOTE:** All memory expansion boards supported by the computer are keyed (notched) to ensure correct positioning.
10. Push the memory expansion board down until the plastic retention clips ❷ snap into place.



11. Replace the memory insulator, if applicable.
12. Replace the keyboard by gently pressing down on the top of the keyboard until it clicks into place.

# Hard Drives



**CAUTION:** To prevent damage to the computer and drive and loss of information, turn off the computer before removing or inserting the hard drive. Do not remove or insert the drive while the computer is turned on, in Suspend (Standby), or in Hibernation.

Electrostatic discharge can damage electronic components. Before touching the hard drive, ensure that you are discharged of static electricity by touching a grounded metal object. Refer to Appendix C, “Electrostatic Discharge.”

**NOTE:** The primary hard drive cannot be used in the mobile expansion unit MultiBay. For information on using hard drives in the mobile expansion unit MultiBay, refer to Chapter 6.

## Removing the Primary Hard Drive

1. If the computer is on, save your work and shut down the computer.

**NOTE:** To ensure that the computer is not in hibernation, turn the computer on, then shut it down.

2. Turn the computer bottom side up, and remove the hard drive screw ❶.



3. Pull up on the drive's front bezel ❷, and slide the hard drive from the bay ❸.



## Inserting the Primary Hard Drive

1. If the computer is on, save your work and shut down the computer.

**NOTE:** If you are unsure whether the computer is off or in Hibernation, turn the computer on by pressing the power button, then shut it down.

2. Turn the computer bottom side up.

3. Slide the hard drive into the bay until the connector is seated **❶**, then push the drive's front bezel down to secure the drive **❷**.



4. Insert the hard drive screw into the computer **❸**.



# Caring for Drives



---

**CAUTION:** To prevent loss of work and/or damage to the computer or a drive:

- Shut down the computer before removing or inserting a hard drive. Do not remove or insert a hard drive while the computer is on, in Suspend (Standby), or in Hibernation. If you are not certain whether the computer is off or in Hibernation, turn the computer on, then shut it down.
  - Before handling a drive, ensure that you are discharged of static electricity. While handling a drive, avoid touching the connector. For more information about preventing electrostatic damage, refer to Appendix C.
  - Before traveling with, shipping, storing, or removing a drive other than a hard drive, make sure that no media, such as a diskette or CD-ROM, is in the drive and that the media tray is closed.
  - Handle a drive carefully; do not drop it.
  - Do not use excessive force when inserting a drive.
  - Avoid exposing a hard drive to liquids, temperature extremes, or products that have magnetic fields such as monitors or speakers.
  - If a drive must be mailed, place the drive in a bubble-pack mailer or other suitable protective packaging and label the package "Fragile: Handle With Care."
- 

## Changing the Startup Sequence with MultiBoot

When the computer is attached to the mobile expansion unit and more than one drive is in the system, the computer selects the drive to start from by searching for, first, a bootable CD-ROM or DVD-ROM; second, a bootable diskette; and third, a bootable hard drive.

**NOTE:** A bootable device contains files needed by the computer to start up and operate properly.

The computer can start from

- Any bootable hard drive in the computer or diskette in the external diskette drive.
- Any bootable diskette (but not a SuperDisk LS-120 drive diskette) or hard drive in a docking base.
- Any bootable CD-ROM or DVD-ROM in a docking base.



By default, Phoenix MultiBoot is disabled and the computer selects the startup drive by searching these locations in this sequence:

1. External diskette drive
2. Computer hard drive bay
3. Mobile expansion unit diskette drive bay
4. Mobile expansion unit MultiBay

To enable MultiBoot and change the sequence of the computer drive bay locations that the computer searches during startup:

1. Restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
  - To change the language, press **F2**.
  - For navigation instructions, press **F1**.
2. Select Advanced→Boot Options, then press **Enter**.
3. Toggle the MultiBoot field to Enable.
4. Toggle the Boot Order fields to the boot sequence you prefer.
5. To save your preferences and exit Boot Options, press **F10**.
6. To confirm saving your changes close Computer Setup, and restart the computer, select File→Save Changes and Exit, then press **F10**.

When the computer restarts and searches for a startup drive, it considers only the first drive of each type. For example, in the default boot order, the computer will not start from a bootable diskette in the diskette drive bay of the mobile expansion unit if a non-bootable diskette is in the external diskette drive connected to the computer.

**IMPORTANT:** Changing the boot order also changes the logical drive designations. For example, if you start up from a hard drive in the mobile expansion base MultiBay, it becomes drive C and a hard drive in the primary hard drive bay becomes drive D. Starting up from a network card does not affect logical drive designations.

## Docking Devices

The mobile expansion unit is available on select models and can be purchased as an upgrade for other models.

In addition to the mobile expansion unit, the computer can also be used with other compatible Compaq docking devices. The computer must be docked in the mobile expansion unit before docking the entire system to a docking device. For more information on the individual docking solutions, contact your local authorized Compaq reseller or provider.

# chapter 5

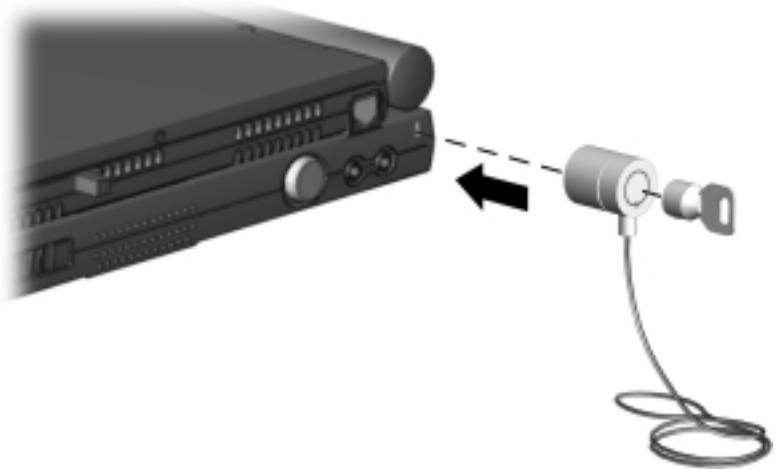
## MOBILE EXPANSION UNIT (AVAILABLE ON SELECT MODELS)

### Security Features

Security features are available on some models of the mobile expansion unit.

#### Using the Security Cable Slot

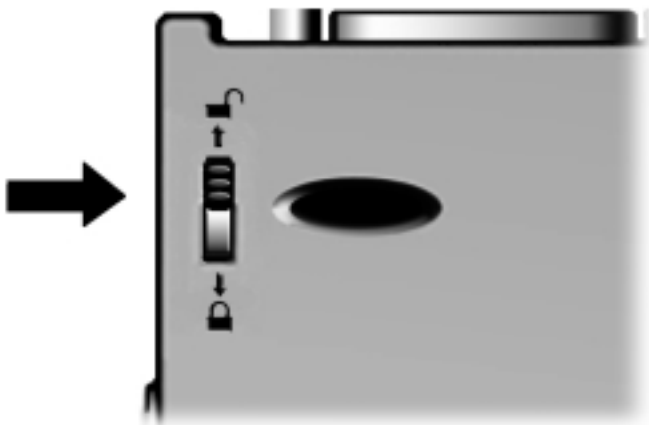
A security cable slot helps protect the system from theft. Use a security cable, purchased from a Compaq authorized reseller worldwide, and loop it around the object to be secured. Pull the lock through the cable loop and insert the cable into the slot on the mobile expansion unit. If the cable has a key, use it to lock and unlock the cable.



## Using the Security Selection Switch

A security selection switch on the bottom side of the mobile expansion unit prevents the removal of the computer from the mobile expansion unit while the system (computer and mobile expansion unit) is docked in an Armada EM Series docking base. To engage the lock:

1. Ensure that the computer and mobile expansion unit are connected.
2. On the bottom side of the mobile expansion unit, slide the security selection switch to the locked icon position.



3. Dock the computer and mobile expansion unit system in the Armada EM Series docking base (refer to the installation guide that comes with the docking base for docking instructions).

To disengage the lock, eject the computer and mobile expansion unit system from the Armada EM Series docking base. Slide the security selection switch on the mobile expansion unit to the unlocked icon position.

## Connecting the Computer

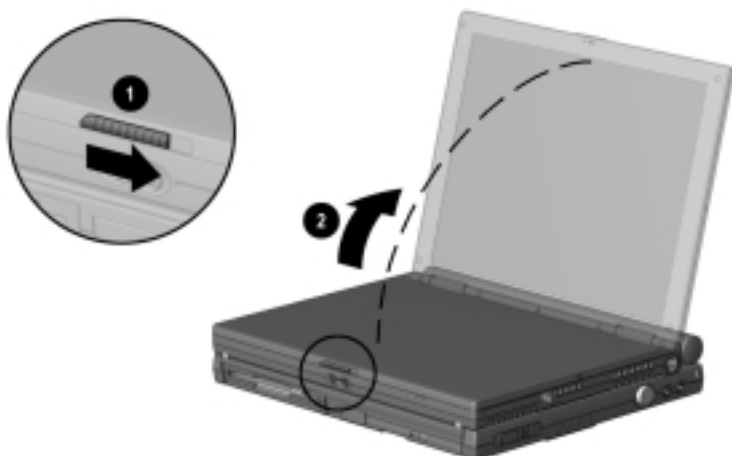
To connect the computer to the mobile expansion unit:

1. Close computer display
2. Align the tabs in front of the computer with the computer tabs on the mobile expansion unit **1**. Lower the computer onto the expansion connector **2** and snap into place.

**NOTE:** Firmly press down on the rear of the computer to ensure the computer and the mobile expansion unit are connected.



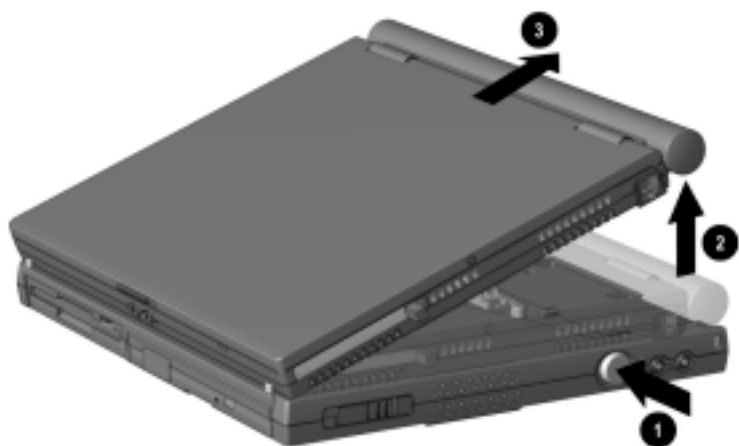
3. Slide the display latch **1** to open the computer **2**.



## Disconnecting the Computer

To disconnect the computer from the mobile expansion unit, follow these steps:

1. Close the computer display.
2. On the mobile expansion unit, press the docking release button **❶** to release the expansion unit from the computer **❷**.
3. Lift the rear end of the computer to disconnect it from the computer expansion connector **❸**.
4. Pull the computer away from the mobile expansion unit tabs **❸**.



## Docking and Undocking to a Compatible Docking Device

Your computer must be attached to the mobile expansion unit before the system can be docked to another docking device. Docking the system to the docking device provides a permanent desktop workstation. Consult the docking device installation and operations guide or your Compaq authorized dealer for more information about docking and undocking.

## Turning Equipment On and Off

When the computer and mobile expansion unit are connected, turn the equipment on and off using the power button on the computer.

If the computer and the mobile expansion unit are docked to a docking device, follow the instructions in the docking device guide for turning equipment on and off.

## Connecting the AC Adapter



**WARNING:** To reduce the risk of personal injury, electric shock, fire, or damage to your equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the equipment into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Disconnect power from the equipment by unplugging the power cord from the electrical outlet.
- Do not place anything on power cords or cables. Arrange them so that no one may accidentally step on or trip over them.
- Do not pull on a cord or cable. When unplugging from the electrical outlet, grasp the cord by the plug.



**WARNING:** To reduce the risk of electric shock, fire, or damage to the equipment, do not attempt to power the computer with a voltage converter kit sold for appliances.

---

To connect the AC Adapter, do the following:

1. Connect the AC adapter to the power connector on the left side of the mobile expansion unit ❶.
2. Connect the AC power cord to the adapter ❷.
3. Plug the power cord into an electrical outlet ❸.



## Connecting External Devices

To connect devices to the mobile expansion unit:

1. Turn off power to the computer, expansion unit, and all devices.
2. Connect external devices to the rear connectors on the expansion unit and turn on power to all devices.

**NOTE:** To complete the device connections, some manufacturers require you to install a software driver. Refer to the documentation included with the device for details.



# Operating External Devices

To ensure that devices connected to the expansion base are activated, follow the guidelines below.

- When adding a device to or removing a device from the expansion unit, turn off power to the computer, expansion unit, and applicable devices before connecting or disconnecting the computer.
- When the computer is connected to the mobile expansion unit, be sure all attached devices are turned on, then turn on power to the computer.

## Drive Devices

The mobile expansion unit supports a second hard drive, CD-ROM drive, DVD-ROM drive, LS-120 drive, or extra battery pack in the MultiBay on the front right side of the unit. In addition, it supports a diskette drive in the Diskette Drive Bay on the front left side of the unit.



**CAUTION:** Electrostatic discharge can damage electronic components. Before touching a MultiBay device or diskette drive, ensure that you are discharged of static electricity by touching a grounded metal object. Refer to Appendix C, "Electrostatic Discharge."

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**IMPORTANT:** If you are using Windows 95, Windows 98, or Windows NT 4.0 preinstalled by Compaq, you do not need to turn off the computer before removing a diskette drive, CD-ROM drive, DVD-ROM drive, LS-120 drive, hard drive, or battery pack from the mobile expansion unit. If you installed Windows 95, Windows 98, or Windows NT 4.0 that you purchased separately, you must obtain additional software from Compaq to support removing these drives while the computer is on or in Suspend (Standby). For more information about the software, refer to the Compaq Internet site at <http://www.compaq.com>.

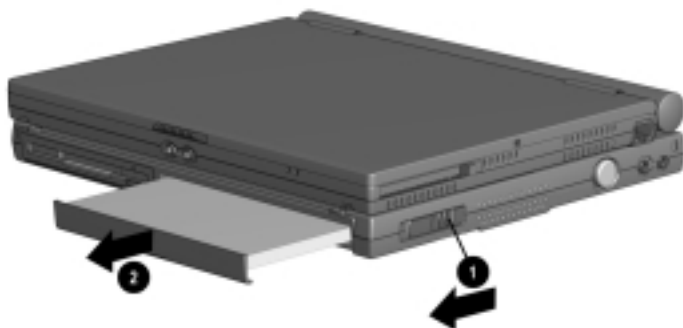
# Drives Support

Drives Support		
Bay Device	Bay Location	Insert/Remove Drive While Computer Is
Hard Drive	Computer hard drive bay	Off
	Mobile expansion unit MultiBay	On, Suspend, or Off
Diskette Drive	External diskette drive	On, Suspend, or Off
	Mobile expansion unit diskette drive bay	
CD-ROM Drive	Mobile expansion unit MultiBay	On, Suspend, or Off
DVD-ROM Drive	Mobile expansion unit MultiBay	On, Suspend, or Off
SuperDisk LS-120 Drive	Mobile expansion unit MultiBay	On, Suspend, or Off
Extra Battery Pack	Mobile expansion unit MultiBay	On, Suspend, or Off

## Removing a MultiBay Device

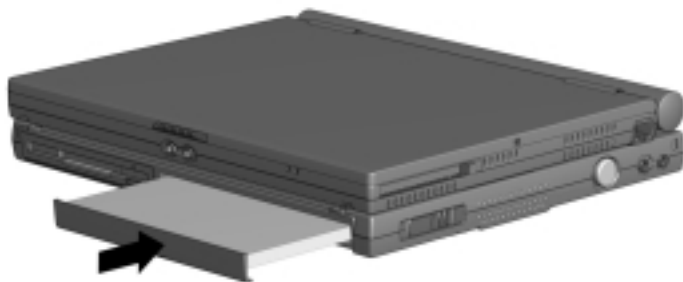
To remove a device from the MultiBay in the mobile expansion unit:

1. If the MultiBay device is a drive, remove any DVD, CD, or diskette disc from it.
2. Slide forward the MultiBay release latch **❶** on the right side of the mobile expansion unit.
3. Pull the MultiBay device from the MultiBay **❷**.



## Inserting a MultiBay Device

To insert a device into the MultiBay in the mobile expansion unit, be sure the drive connector is facing in, then slide the MultiBay device into the MultiBay until the connector is seated.



## Removing the Diskette Drive from the Diskette Drive Bay

To remove the diskette drive from the Diskette Drive Bay in the mobile expansion unit:

1. Remove the diskette from the diskette drive.
2. Slide forward the diskette drive release latch ❶.
3. Slide the diskette drive from the bay ❷.



## Inserting the Diskette Drive into the Diskette Drive Bay

To insert the diskette drive into the Diskette Drive Bay in the mobile expansion unit:

1. Remove the drive connector cord from the external diskette drive that came with the computer.
2. With the drive connector facing in, slide the diskette drive into the Diskette Drive Bay until the connector is seated.



# chapter 6

## USING AN INTERNAL MODEM (AVAILABLE ON SELECT MODELS)

### Connecting the Modem Cable

The Compaq internal modem must be connected to a standard (analog) telephone line.

**IMPORTANT:** Immediately disconnect an accidental connection to a digital line, such as an office PBX line.

1. Plug either end of the modem cable included with the computer into the RJ-11 jack on the computer ❶.

**IMPORTANT :** The network and modem cables may contain noise suppression circuitry near one end of the cable. This circuitry prevents interference with TV and radio reception. Orient the cable so that the noise suppression circuitry is closest to the computer.

2. If you are connecting the cable to a telephone jack that is not an RJ-11 jack, plug the country-specific modem adapter, included with the computer, into the telephone jack.
3. Plug the other end of the modem cable into the country-specific modem adapter or into the RJ-11 telephone jack ❷.



## Selecting Communications Software

You can operate the modem with preinstalled or optional software. To use preinstalled modem software, select Start→Programs. Then,

- For terminal emulation and data transfer
  - **In Windows 95, Windows 98, or Windows NT 4.0,** select Accessories→HyperTerminal.
  - **In Windows 2000 Professional,** select Accessories→Communications→HyperTerminal.
- For fax emulation and transfer
  - **In Windows 95,** select Accessories→Fax→Compose New Fax.
  - **In Windows 98, Windows NT 4.0, or Windows 2000 Professional,** select RingCentral Fax.

## Configuring the Modem

The settings you may be required to enter vary among communications software applications. As you enter these settings, the following information may be helpful.

NOTE: If you have problems connecting to the network or operating the modem/NIC card, you may need to update or reinstall the modem or LAN drivers. Refer to Chapter 7 for instructions.

## Recommended Settings

- **Model**—
  - Select Start→Settings→Control Panel→Modem
  - or
  - Enter the initialization string  
AT&F1&D2&C1E0V1S0=0.
- **COM port settings**—Refer to Appendix D.
- **Fax class**—Select 1.
- **Parity**—Select NONE.
- **Word length**—Select 8.
- **Stop bits**—Select 1.
- **Hardware flow control**—Select RTS/CTS.
- **Speed**—Select the highest transmission speed or baud rate.
  - The maximum connection speed is determined by the speed of the slowest modem on the connection. The internal modem negotiates the fastest speed possible with the remote modem.
  - The internal modem supports
    - Standard analog modem communication protocols (for speeds up to 33.6 Kbps).
    - ITU-compatible V.90 and K56Flex protocols (for higher speeds).
  - The V.90 and K56Flex protocols allow faster downloads only from V.90 and K56flex-compliant digital sources. Maximum achievable download transmission rates are currently unknown, may not reach 56Kbps, and will vary with line conditions.

## Using Modem Commands and Dial Modifiers

You can configure most communications software without the use of AT commands or dial modifiers.

- If you prefer to configure the modem using AT commands, select  
Start→Programs→Accessories→HyperTerminal.
- To access an AT command set including dial modifiers and instructions, go to the Compaq Internet site at <http://www.compaq.com/support/portables>.

## Setting Modem Preferences

The following preference is in addition to those described in your modem communication software documentation.

**In Windows 95 only**—To set the computer to turn on when the modem receives a telephone call, select Start→Settings→Control Panel→Power→Power tab→Advanced button, then select the Wake Up the Computer When the Phone Rings check box.

## Using the Modem

The internal modem supports all operations described in most communications software documentation.

If you are using a fax application, the following supplementary information may be helpful.

- **Fax speed**—Fax communication software enables the modem to send and receive faxes at 14,400 bps.
- **Installing and loading fax communication software**—
  - Install no more than one fax application. If more than one fax application is installed, conflicts may occur because all fax applications use similar files.
  - When some fax applications are loaded, their fax drivers may disrupt other modem functions. If you experience problems with the modem after installing your fax application, the drive may need to be unloaded from memory. Refer to the fax application documentation for information about unloading the driver.
- **Sending a Fax**—
  - Opening the fax application loads the application fax driver and prepares the modem to send the fax.



- If you prepare the fax in another application, you may need to select your fax driver from within the Print Setup menu of that application.
- **Receiving a Fax**—For the modem to receive a fax, a fax driver must be loaded and the fax application must be open.
- If you have enabled auto receive within your fax application, opening the application loads the fax driver and prepares the modem to receive a fax.
- If you are using a Windows fax application, you can receive a fax while using another application by opening, then minimizing, the Windows fax application.

## Using the Modem While Traveling Internationally

### Using a Country-Specific Modem Adapter

Telephone jacks vary by country. The modem cable included with the computer plugs directly into an RJ-11 telephone jack. To plug the modem cable into a different type of telephone jack, you must use a country-specific modem cable adapter. A cable adapter is provided with the computer. To obtain a different country-specific adapter(s) required for your itinerary, refer to Appendix A to contact a Compaq-authorized dealer, reseller or service provider.

To connect the modem using a country-specific modem adapter:

1. Plug either end of the modem cable included with the computer into the RJ-11 jack on the computer ❶.
2. Plug the country-specific modem adapter into the telephone jack ❷.
3. Plug the modem cable into the country-specific modem adapter ❸.



## Selecting a Country-Specific Modem Configuration

The internal modem is configured to meet operating approval in the country where you purchased your computer. To set the modem to comply with telecommunications standards and regulations in other countries, you must change the country selection setting.

To confirm that the modem has been approved for use by the telecommunications agency in the desired country, check the modem agency approvals label on the bottom of the computer. Or, for the most up-to-date approval information, refer to the Compaq Website at [www.compaq.com](http://www.compaq.com).

To view the current country selection

- **In Windows 95, Windows 98, or Windows NT 4.0,** select Start→Settings→Control Panel→Modems→Dialing Properties. The current country selection is displayed in the I Am In box.
- **In Windows 2000 Professional,** select Start→Settings→Control Panel→Phone and Modem Options, then select the Dialing Properties tab. In the Locations list, select the location from which you are dialing, then select the Edit button. The current country selection is displayed in the Country/region box.

To change the current country selection

NOTE: If you select a country that is not supported by the internal modem, a warning will appear. Unless you then select a supported country, the country selection will default to USA.

- **In Windows 95, Windows 98, or Windows NT 4.0**, select Start→Settings→Control Panel→Modems→Dialing Properties tab, then select the new country from the drop-down list in the I Am In box.
- **In Windows 2000 Professional**, click Start→Settings→Control Panel→Phone and Modem Options→Dialing Properties tab, then
  1. In the Locations list, select the location from which you are dialing.
  2. Select the Edit button.
  3. Select the new country from the drop-down list in the Country/region box.
  4. To save the new country selection, click Apply.

### Travel Connection Checklist

If you experience connection problems while using the modem outside your home country, the following suggestions may help.

- **Check the telephone line type**—The modem requires an analog, not a digital, telephone line. A telephone line described as a data line, fax machine line, modem line, or standard telephone line is probably an analog line.
- **Check for pulse or tone dialing**—Dial a few digits on the telephone and listen for clicks (pulses) or tones. Then make sure your communication software is set to the corresponding dialing mode (pulse or tone).
- **Check the telephone number you are dialing and the response of the remote modem**—Dial the telephone number on the telephone, wait for the remote modem to answer, then hang up.

- **Set the modem to ignore dial tones**—If the modem receives a dial tone it does not recognize, it will not dial and will display a No Dial Tone error message. To set the modem to ignore all dial tones before dialing:
  1. Select Start→Settings→Control Panel→Modems.
  2. Select your modem, then select Properties→Connections tab, then clear the Wait for Dial Tone Before Dialing check box.

# chapter 7

## CONNECTING TO A LOCAL AREA NETWORK (AVAILABLE ON SELECT MODELS)

An internal modem/NIC (network interface card) combination card and preinstalled modem and LAN (local area network) drivers allow you to connect the computer to a LAN.

### Connecting the Network Cable

**IMPORTANT :** The network and modem cables may contain noise suppression circuitry near one end of the cable. This circuitry prevents interference with TV and radio reception. Orient the cable so that the noise suppression circuitry is closest to the computer.

1. Plug one end of the LAN cable (may not be included with the computer) into the RJ-45 jack on the computer, and connect the other end of the cable to a network jack.
2. Connect one end of the modem cable (included with the computer) into the RJ-11 jack on the computer and the other end of the cable into a standard telephone wall jack.
3. Restart the computer, then connect to the network.

# Reinstalling LAN Drivers

If you have problems connecting to the network or operating the modem/NIC card, you may need to update or reinstall the modem or LAN drivers. Use the procedures in the following sections to:

- First, uninstall the currently loaded modem and LAN drivers.
- Second, install the LAN drivers.
- Third, install the modem drivers.

## Updating or Reinstalling Modem and LAN Drivers in Windows 95 or Windows 98

After reinstalling the LAN and modem drivers, it is recommended that you confirm the network protocol setting.

## Uninstalling Modem and LAN Drivers (Windows 95 or Windows 98)

1. Select Start→Settings→Control Panel, then double-click Add/Remove Programs.
2. Select Compaq 56K (V.90) Mini PCI from the list of programs.
3. Select the Add/Remove button.
4. Select Yes to confirm the removal.
5. If you are prompted to restart (reboot) the system, select No.
6. Select Intel PRO Ethernet Adapter and Software from the list of programs.
7. Select the Add/Remove button.
8. Select OK to confirm the removal.
9. Restart the computer.

## Reinstalling LAN Drivers (Windows 95 or Windows 98)

When you start the computer after uninstalling modem and LAN drivers, the computer displays the New Hardware Found “PCI Ethernet Controller” dialog box.

1. Select the Next button in the dialog box, then continue to select the Next button on succeeding screens until you are prompted to enter a driver location.
2. At the driver location prompt, type the path to the Intel PRO/100+ drivers:

`C:\Program Files\Compaq\CPQLANModem\Network`

3. Select the Next button, then continue to select the Next button on succeeding screens until the computer copies the LAN files.
4. To complete the installation of the LAN files, select Finish.

## Reinstalling Modem Drivers (Windows 95 or Windows 98)

When you start the computer after installing LAN drivers, the computer displays the New Hardware Found “PCI Serial Controller” dialog box.

1. Select the Next button in the dialog box, then continue to select the Next button on succeeding screens until you are prompted to enter a driver location.
2. At the driver location prompt, type the path to the Compaq 56K (V.90) Mini PCI drivers:

`C:\Program Files\Compaq\CPQLANModem\Modem\Win9x`

3. Select the Next button, then continue to select the Next button on succeeding screens until the computer copies the modem drivers.
4. To continue, select Finish.
5. To use the modem drivers, you must restart the computer.

## Confirming the Network Protocol (Windows 95 or Windows 98)

To confirm the network protocol setting after reinstalling LAN drivers:

1. Select Start→Settings→Control Panel. Double-click Network, then select the Configuration tab.
2. Verify that the desired protocols are included on the list of installed network components.

NOTE: For information about adding a network protocol, refer to your operating system documentation.

## Updating or Reinstalling Modem and LAN Drivers in Windows NT 4.0

IMPORTANT: To uninstall or reinstall modem or LAN drivers in Windows NT 4.0, you must log in to Windows NT with Administrator privileges.

When installing the LAN drivers, it may be necessary to reinstall Windows NT 4.0 Networking before installing the LAN drivers.

## Uninstalling Modem and LAN Drivers (Windows NT 4.0)

1. Select Start→Settings→Control Panel, then double-click Add/Remove Programs.
2. Select Compaq 56K (V.90) Mini PCI from the list of programs.
3. Select the Add/Remove button.
4. Select Yes to confirm the removal.
5. When prompted to restart the system, select No.
6. Select OK to close the Add/Remove Programs window.
7. In the Control Panel window, double-click Network, then select the Adapters tab.
8. Select Intel PRO/100+ Mini PCI, then select Remove.
9. Select Yes to continue.
10. Select Yes to confirm the file removal.



11. Restart the computer.

## Reinstalling LAN Drivers and Windows NT Networking (Windows NT 4.0)

If it has become necessary to reinstall LAN drivers, you may also need to reinstall Windows NT Networking.

To determine whether you must reinstall Windows NT Networking, select Start→Settings→Control Panel, then double-click Network.

■ **If you are prompted to install Windows NT**

**Networking**—Select Yes, then follow the instructions below for “Reinstalling Windows NT Networking (Windows NT 4.0).”

■ **If you are not prompted to install Windows NT**

**Networking**—Go to the instructions later in this section for “Reinstalling LAN Drivers (Windows NT 4.0).”

## Reinstalling Windows NT Networking (Windows NT 4.0)

1. Select Start→Settings→Control Panel, then double-click Network.
2. At the Windows NT Networking installation prompt, select Yes.
3. Select Wired to the Network, then select the Next button.
4. Select the Select from List button.
5. Select the Have Disk button.
6. When prompted, type the path to the Intel PRO/100+ Mini PCI drivers:

C:\Program Files\Compaq\CPQLANModem\Network

7. Select the OK button.
8. Select Intel PRO Adapter.
9. Select the OK button.
10. Select the Next button.
11. Select the network protocol(s) for your LAN environment, then select the Next button.

12. Select the network service(s) for your LAN environment. Select the Next button, then continue to select the Next button on succeeding screens until you are prompted to enter a drive designator.
13. When prompted, type the drive designator for your Windows NT 4.0 operating system. For example, if Windows NT 4.0 is on your hard drive, type C: (where C: is the designator of your hard drive).
14. Select the binding(s) for your LAN environment. Select the Next button, then continue to select the Next button on succeeding screens until you are prompted to enter the computer name and workgroup/domain information.
15. When prompted, enter the computer name and the workgroup/domain information for your LAN environment, then select the Next button.
16. Select the Finish button.
17. Restart the computer.

#### Reinstalling LAN Drivers (Windows NT 4.0)

1. Select Start→Settings→Control Panel, then double-click Network.
2. Select the Adapters tab→Add button→Have Disk button.
3. When prompted for the path to the Intel PRO/100+ Mini PCI drivers, type the following, then select OK.

C:\Program Files\Compaq\CPQLANModem\Network

4. Select Intel PRO Adapter→OK.
5. Select the properties for your LAN environment, then select OK.
6. Restart the computer.

#### Reinstalling Modem Drivers (Windows NT 4.0)

1. Select Start→Run. In the Open box, type

C:\Program Files\Compaq\CPQLANModem\Modem\NT40\Combo\Setup

2. Select the OK button, then select the Next button on succeeding screens until the computer copies the modem drivers.

3. Select Finish.
4. Restart the computer.

## Updating or Reinstalling Modem and LAN Drivers in Windows 2000 Professional

**IMPORTANT:** To uninstall or reinstall modem or LAN drivers in Windows 2000 Professional, you must log in to Windows 2000 Professional with Administrator privileges.

To update or reinstall modem and LAN drivers:

- First, uninstall the currently loaded modem and LAN drivers.
- Second, install or restore the LAN drivers.
- Third, install or restore the modem drivers.

## Uninstalling Modem and LAN Drivers (Windows 2000 Professional)

1. Select Start→Settings→Control Panel→double-click Add/Remove Programs→Change or Remove Programs.
2. Select Compaq 56K (V.90) Mini PCI from the list of programs.
3. Select the Change/Remove button.
4. Select Yes to confirm the removal.
5. If you are prompted to restart the computer, select No.

## Reinstalling LAN Drivers (Windows 2000 Professional)

1. Select Start→Settings→Control Panel, then double-click System.
2. Select the Hardware tab and double-click Device Manager.
3. Double-click Network adapters, then double-click Intel PRO/100+ MiniPCI.
4. Select the Driver tab, then click the Update Driver button. The Upgrade Device Driver Wizard appears.
5. Click Next.

6. Select Display a List of Known Drivers for This Device so That I Can Choose a Specific Driver.
7. Click Next.
8. Select Intel PRO/100+ MiniPCI, then click Have Disk.
9. Specify the path to the new driver location, then click OK.  
NOTE: The location of the preinstalled drivers is C:\Program Files\Compaq\CPQLANMODEM\Network
10. Select Intel PRO/100+ MiniPCI, then click Next.
11. Click Yes to ignore the Update Driver Warning message.
12. Click Next.
13. Click Finish.
14. Click Close.
15. Click Yes to restart your computer.

#### Reinstalling Modem Drivers (Windows 2000 Professional)

1. Select Start→Run. In the Open box, type  
C:\Program Files\Compaq\CPQLANModem\Modem\Setup
2. Click OK.
3. Restart the computer.

# chapter 8

## USING PC CARDS

A PC Card is a credit card–sized accessory designed to conform to the standard specifications of the Personal Computer Memory Card International Association (PCMCIA). The computer supports both 32-bit CardBus cards and 16-bit PC Cards.

### Configuring a PC Card



**CAUTION:** If you install card and socket services or enablers provided by a PC Card manufacturer, you may not be able to use other PC Cards. If you are instructed by PC Card documentation to install device drivers

- Install only the device drivers for your operating system.
  - Do not install card services, socket services, or enablers.
- 

- **In Windows 95, Windows 98, or Windows 2000 Professional** the operating system configures plug and play PC Cards.
- **In Windows NT 4.0 with CardWare provided by Compaq** you can configure a PC Card in the CardWare window:
  - First, insert the PC Card as instructed later in this chapter.
  - Then, open the CardWare window by selecting Start→Programs→CardWare.
  - For additional instructions, refer to the Help program within CardWare.

## Inserting or Removing a PC Card

- In Windows 95, Windows 98, or Windows 2000 Professional—
  - If you insert a PC Card while the computer is on, the computer beeps twice when the card is ready for use.
  - If you remove a PC Card while the computer is on, the computer beeps twice when the card is removed.
  - When a PC Card is in the system, the PC Card icon displays on the taskbar.
- In Windows NT 4.0 with CardWare provided by Compaq—
  - If you insert a PC Card while the computer is on, the computer beeps three times when the card is recognized.
  - If you remove a PC Card while the computer is on, the computer beeps three times when the card is removed.
  - The PC Card icon displays in the taskbar whether or not a PC Card is in the system.

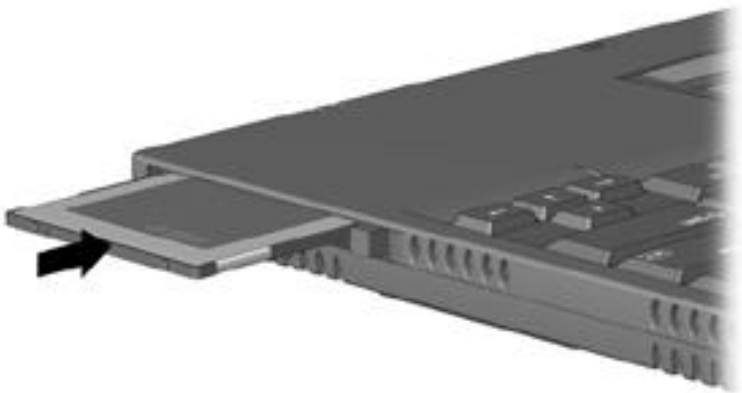
## Inserting a PC Card



**CAUTION:** To prevent damage to the connectors, use minimal pressure as you insert a PC Card into the PC Card slot.

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1. With the connector facing the computer and the label facing up, push the PC Card through the PC Card doors, aligning the card on the two guide rails within the PC Card slot.
2. Gently push the card into the slot until the card is seated.



3. **In Windows NT 4.0 with CardWare provided by Compaq only**—Restart the computer if you are instructed to do so by the PC Card documentation or an on-screen prompt.
  - If you are inserting a LAN, SCSI, or multifunction PC Card, you must restart the computer.
  - If you are inserting a modem, ATA, flash, or SRAM PC Card, it is usually not necessary to restart the computer.

## Removing a PC Card

- First, prepare the system for the removal:



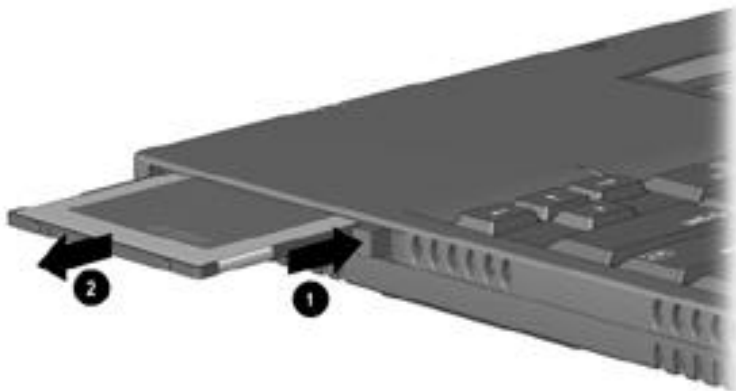
**CAUTION:** If the computer is on and running Windows 95, Windows 98, or Windows 2000 Professional, failure to stop a PC Card before removing it may cause loss of data.

---

- **In Windows 95, Windows 98, or Windows 2000 Professional**—If the computer is on, stop the PC Card before you remove it. To stop a PC Card, select the PC Card icon in the taskbar, then select the PC Card you want to stop, then select Stop Card. A message displays when the PC Card can be safely removed. :
- **In Windows NT 4.0 with CardWare provided by Compaq only**—If the computer is on, you must shut it down before removing some PC Cards. Refer to the PC Card documentation for removal requirements.

**NOTE:** You must shut down the computer before removing a LAN, SCSI, or multifunction PC Card. It is usually not necessary to shut down the computer before removing a modem, ATA, flash, or SRAM card.

- Second, remove the PC Card:
  1. Push the PC Card eject button ❶.
  2. Gently grasp the card and pull it out ❷.





## Zoomed Video

A zoomed video PC Card promotes higher overall system performance for MPEG playback.

The computer supports Zoomed Video PC Cards under Windows 95, Windows 98, and Windows 2000 Professional. Windows NT 4.0 does not support Zoomed Video.

Always insert a Zoomed Video card into the bottom PC Card slot.

# chapter 9

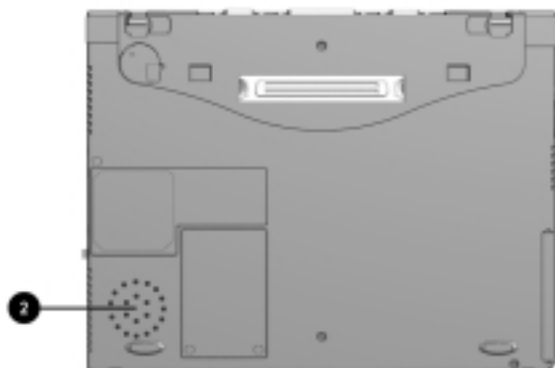
## USING AUDIO FEATURES

### Using the Internal Microphone and Stereo Speakers

- The microphone ❶ has a standard sensitivity of -50 dB and supports audio input when the display is open or closed.



- The speaker ② provides audio playback for multimedia applications. When the computer is docked in the mobile expansion unit, these speakers are disabled and system sound plays through the mobile expansion unit's bass speakers.



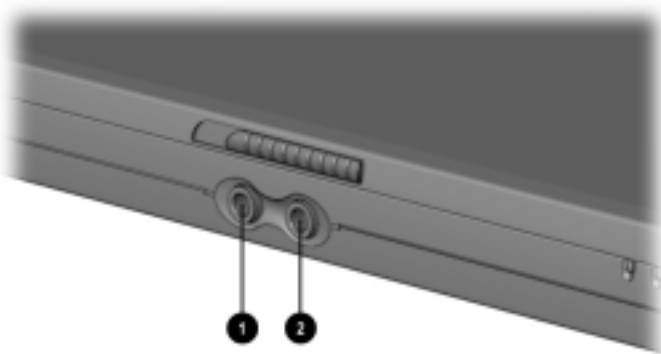
## Connecting an External Audio Device



**CAUTION:** To prevent possible damage to an external device, do not plug a single-sound channel (monaural) connector into the stereo speaker/headphone jack.

### Selecting an Audio Connector

To Connect This Device	Use This Jack
Stereo speakers, headphones, or headset	① Stereo speaker/headphone jack
Single sound channel microphone	② Microphone jack



## Connecting a Device to the Microphone Jack

The microphone jack supports a single sound channel (monaural) microphone with a 3.5-mm plug. A powered, single sound channel, electret condenser microphone is recommended.

- If you use a stereo microphone, only the left channel will be recorded.
- If you use a dynamic microphone, the recommended sensitivity will not be achieved.

When an external microphone is connected to the computer, the computer microphone is disabled.

## Connecting a Device to the Stereo Speaker/Headphone Jack



**WARNING:** To reduce the risk of personal injury, turn down the volume control before putting on headphones.

---

- Use only a 3.5-mm stereo plug. For best sound quality,
  - Headphones should be 32 ohms.
  - External speakers should be at least 8 ohms.
- Connecting an external audio device to the stereo speaker/headphone jack disables the computer speaker.

# Adjusting Volume

## Adjusting System Volume

### ■ Using the Fn+F5 hotkeys—

- To raise or lower volume, press **Fn+F5**, then move the onscreen slide button or press a keyboard arrow key.
- To mute or restore volume, press **Fn+F5+M** or press **Fn+F5**, then select or clear the Mute check box.



### ■ Using the Windows Volume Control window—

- Double-click the volume icon in the taskbar, then enter your preferences.
- To activate the Windows Volume Control window while it is open but inactive, press the **Fn+F5** hotkeys.

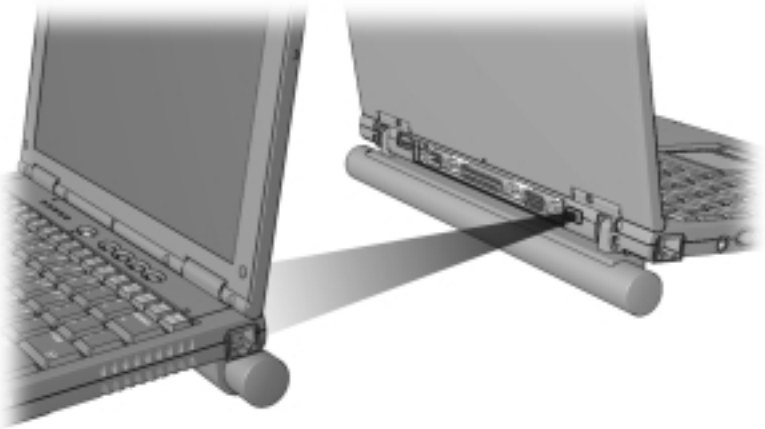
**NOTE:** Volume can also be adjusted within some applications.

# chapter 10

## USING THE INFRARED PORT

### Communicating with Infrared

- If the computer is running Windows 98 or a preinstalled Windows 95 operating system, the computer is IrDA-compliant (4Mbps standard) and can communicate with any another infrared-equipped device that is also IrDA-compliant.
- Infrared communication is supported by Windows 95 and Windows 98. To operate infrared on computers running Windows NT 4.0, you will need to purchase optional third-party software.



**NOTE:** The infrared port supports both low speed connections up to 115 kilobits per second (Kbps) and high speed connections up to 4 megabits per second (Mbps). Infrared performance may vary depending on performance of infrared peripherals, distance between infrared devices, and applications used.

# Configuring the Infrared Port

As you set up your infrared software, the following information may be helpful.

- The infrared port default settings are: Port, COM3; address, 3; Interrupt Request (IRQ), 3.
- If you use Direct Cable Connection and the utility asks you to choose a port for the infrared connection, you can select Serial Cable on COM5 or, if the computer is running a preinstalled Windows 95 or Windows 98 operating system, Parallel Cable on LPT3.

## Enabling the Infrared Port

**In Windows 95** the infrared port must be enabled each time the computer is turned on or restarted. To enable the infrared port, select Start→Settings→Control Panel→Infrared.

**In Windows 98** the infrared port is enabled by default each time the computer starts up.

- When the infrared port is enabled, the infrared icon appears on the taskbar and Infrared Monitor search is enabled by default.
- While the Infrared Monitor search is enabled
  - You can establish an infrared link.
  - The system cannot initiate Suspend (Standby). User-initiated Suspend (Standby) is not affected.
- When the Infrared Monitor search is disabled
  - Power is conserved.
  - You cannot establish an infrared link.
  - The system can initiate Suspend (Standby).
- To enable or disable Infrared Monitor search
  1. Open the Infrared Monitor dialog box by selecting the Infrared icon in the taskbar→Options tab.
    - To enable Infrared Monitor search, select the Search For and Provide Status for Devices in Range check box.
    - To disable Infrared Monitor search, clear the check box.
  2. Select OK to save your preference and close the Options dialog box.

# chapter 11

## SECURING THE COMPUTER

### Security Features Quick Reference

Security Features Quick Reference	
To Protect Against This Risk	Use This Security Feature
Unauthorized use of the computer	Power-on password, with or without Quick Controls
Unauthorized access to the Computer Setup utility	Setup password
Unauthorized access to the contents of a hard drive	DriveLock
Unauthorized use of a drive or port	Device disabling
Unauthorized access to the computer hard drive bay compartment	Hard drive security screw
Unauthorized removal of the computer	Security cable slot

### If You Forget a Password

- If you forget a power-on or setup password, refer to "Worldwide Telephone Numbers" in Appendix A to contact a Compaq authorized service provider.
- If you forget both the user and master DriveLock passwords, the hard drive is permanently unusable.
- If you forget a DriveLock user password but know the DriveLock master password, you can remove DriveLock protection from the drive. For instructions, refer to "Using DriveLock" in this chapter.



# Using a Power -On Password

A power-on password

- Prevents unauthorized use of the computer. Once set, it must be entered each time the computer is turned on or restored from Hibernation.
- Enables you to use Quick Controls.
- Can be up to seven alphanumeric characters, is not case sensitive, and can be the same as any other seven-character password.
- Must be set and entered with the same keys. For example, a password set with keyboard number keys will not be recognized if you enter it with embedded keypad number keys.

## Setting, Changing, or Deleting a Power -On Password

### Setting a Power -On Password

NOTE: An Administrator Password can also be set following the same instructions. Simply click the Set button under Administrator Password instead of Power-On Password. All other information in this section applies to Administrator Passwords as well as Power-On Passwords.

1. Click Start→Settings→Control Panel→double-click Passwords→Computer Security tab. If no power-on password has been set, an open lock icon will appear and the Set button will be displayed.

NOTE: If a power-on password has already been set, a closed lock icon will appear on the Computer Security tab. You can only change the power-on password when prompted for it after rebooting the computer.

2. Click the Set button under Power-On Password.
3. Type the password in the Enter Password field, then in the Verify Password field.
4. Click OK.

## Changing or Deleting a Power -On Password

1. Turn on or restart the computer, then press F10 when the blinking cursor appears upper-right on the screen.
  - To change the language, press F2.
  - For navigation instructions, press F1.
2. Select Security → Power-on Password, then press Enter. Then,
  - **To change a power-on password**—Type the current password in the Old Password field, then type the new password in the New Password and Verify New Password fields, then press F10.
  - **To delete a power-on password**—Type the current password in the old Password field, then press F10.
3. To save your preferences, close Computer Setup, and restart the computer, select File → Save Changes and Exit, then press Enter.
4. When you are prompted to confirm your action, press F10.

## Entering a Power -On Password

At the power-on password prompt, type the password using the same keys you used to set the password, then press Enter. After three unsuccessful attempts to enter the password correctly, you must restart the computer to try again.

## Using Quick Controls

When a power-on password is set, the following Quick Control preferences are available:

- **QuickLock** disables your keyboard and pointing device.
- **QuickLock on Suspend** sets the computer to initiate QuickLock whenever the computer enters Suspend (Standby).
- **QuickLock at system startup** sets the computer to initiate QuickLock each time the computer is turned on or restarted. This feature will lock the keyboard and pointing device at system startup.
- **QuickBlank** clears the screen whenever QuickLock initiates.

NOTE: Quick Controls cannot be used if an external keyboard connected through a USB connector has ever been connected to the computer. QuickControls are also not available if you are using Windows 2000 Professional since the operating system features equivalent functions. Refer to your Windows 2000 Professional manual for more information.

## Setting, Changing, or Deleting Quick Control Preferences

NOTE: Disabling QuickLock does not remove a power-on password.

1. Click Start→Settings→Control Panel→double-click Passwords→Computer Security tab.
2. Click the Options button.

NOTE: The Options button is only displayed if a Power-On Password has been set.

3. To enable QuickLock, check the “Enable QuickLock of the keyboard” checkbox. You may then also select QuickBlank and/or QuickLock on Suspend (Standby).
4. To enable QuickLock at system startup, click the checkbox next to this option.
5. Click OK.

## Initiating QuickLock Manually

Press the Fn+F6 hotkeys or press Ctrl+Alt+L.

## Exiting QuickLock

Type the power-on password using the same keys you used to set the password, then press Enter.

## Using a Setup Password

A setup password

- Protects the configuration settings and the system identification information in Computer Setup by preventing unauthorized access to the utility. Once set, it must be entered each time you access Computer Setup.

- Can be up to seven (7) alphanumeric characters, is not case sensitive, and can be the same as any other seven-character password.
- Must be set and entered with the same keys. For example, a password set with keyboard number keys will not be recognized if you enter it with embedded keypad number keys.

## Setting, Changing, or Deleting a Setup Password

1. Turn on or restart the computer, then press F10 when the blinking cursor appears upper-right on the screen.
  - To change the language, press F2.
  - For navigation instructions, press F1.
2. Select Security → Setup password, then press Enter. Then,
  - **To set a setup password**—Type the password in the New Password field, then in the Verify New Password field, then press F10.
  - **To change a setup password**—Type the current password in the Old Password field, then type the new password in the New Password and Verify New Password fields, then press F10.
  - **To delete a setup password**—Type the current password in the old Password field, then press F10.
3. To save your preferences, close Computer Setup, and restart the computer, select File → Save Changes and Exit, then press Enter.
4. When you are prompted to confirm your action, press F10.

## Entering a Setup Password

When prompted for the setup password, type the password using the same keys you used to set the password, then press Enter.

After three unsuccessful attempts to enter the setup password correctly, you must restart the computer and press F10 at the blinking cursor to try again.

# Using DriveLock



**CAUTION:** If you forget both the DriveLock user password and the DriveLock master password, the protected hard drive is permanently unusable.

---

- DriveLock prevents unauthorized access to the contents of a hard drive. Once DriveLock protection is applied to a drive
  - ❑ A password must be entered to access the drive.
  - ❑ The drive can be accessed only when it is inserted in the computer hard drive bay.
- DriveLock involves two passwords, a user password and a master password.
  - ❑ A hard drive protected by DriveLock can be accessed with either the user or the master password.
  - ❑ DriveLock protection can be removed from a hard drive only with the master password.
  - ❑ The owner of the user password should be the day-to-day user of the protected hard drive.
  - ❑ The owner of the master password may be a system administrator or the day-to-day user.
- The user and master password can be the same. A user or master password that is seven characters or less can be the same as any other password.

**NOTE:** When the computer is starting up from a hard drive protected with DriveLock, you will not be prompted for a power-on password if you enter a user or master password that is the same as the power-on password.

- A user or master password
  - ❑ Can be up to 32 alphanumeric characters and is not case sensitive.
  - ❑ Must be set and entered with the same keys. For example, a password set with keyboard number keys will not be recognized if entered with embedded keypad number keys.
- You can delete a user or master password only by removing DriveLock protection from the drive.

## Protecting a Hard Drive with DriveLock



**CAUTION:** If you forget both the DriveLock user password and the DriveLock master password, the protected hard drive is permanently unusable.

---

1. Ensure that the hard drive is inserted into the computer hard drive bay.
  2. Turn on the computer, then press F10 when the blinking cursor appears upper-right on the screen.
    - To change the language, press F2.
    - For navigation instructions, press F1.
- NOTE: If you open Computer Setup from a Windows restart, DriveLock settings are not accessible.
3. Select Security → DriveLock passwords, then press Enter.
  4. Select the location of the hard drive, then press F10.
  5. Toggle the Protection field to Enable.
  6. Read the Warning. To continue, press F10.
  7. Type a user password in the New Password field and in the Verify New Password field, then press F10.
  8. Type a master password in the New password field and in the Verify New Password field, then press F10.
  9. To confirm DriveLock protection on the drive you have selected, type DriveLock in the confirmation field, then press F10.
  10. To save your DriveLock settings, then close Computer Setup and restart the computer, select File → Save Changes and Exit, then press Enter.
  11. When you are prompted to confirm your action, press F10.

## Accessing a Protected Hard Drive

1. Ensure that the drive is inserted into the computer hard drive bay.

2. When prompted for a DriveLock password, type either the user or the master password, using the same keys you used to set the password, then press Enter. After two attempts to enter the password correctly, you must restart the computer to try again.

## Changing a DriveLock Password or Removing DriveLock Protection from a Drive



**CAUTION:** If you forget both the DriveLock user password and the DriveLock master password, the protected hard drive is permanently unusable.

---

1. Ensure that the protected hard drive is inserted into the computer.
2. Turn on the computer, then press F10 when the blinking cursor appears upper-right on the screen.
  - To change the language, press F2.
  - For navigation instructions, press F1.

**NOTE:** If you open Computer Setup from a Windows restart, DriveLock settings are not accessible.

3. Select Security → DriveLock passwords, then press Enter.
4. Select the location of the hard drive, then press F10.
  - **To change a user or master password**—In the field beside the password you want to change, type the current password in the Old Password field, type the new password in the New Password and Verify New Password fields, then press F10.
  - **To remove DriveLock protection from the drive**—Toggle the protection field to disable and press F10. Then type your master password in the Old Password field and press F10.
5. To save your changes, exit Computer Setup, and restart the computer, select File → Save Changes and Exit.
6. When you are prompted to confirm your action, press F10.

## Disabling a Device

To allow limited use of the computer by another user, you can disable most drives and ports.

**NOTE:** If an Administrator Password is set, you must type the password before any options are enabled on the Port Security tab.

- **In Windows 95 or Windows 98**—although devices and functions can be enabled or disabled from either Compaq Computer Security or Computer Setup, Compaq recommends that you use Compaq Computer Security.
  - ❑ To enable or disable a device or function from within Windows 95 or Windows 98, select Start→Settings→Control Panel→double-click Compaq Computer Security→Port Security tab.
  - or
  - ❑ Right-click the Compaq Computer Security icon on the system tray, click Security Properties→Port Security tab.
  - ❑ If you cannot access Compaq Computer Security because your operating system is not working or will not load, you may be able to use Computer Setup as described below.
- **In Windows NT 4.0 or Windows 2000 Professional**—as a security measure, a device or function that is disabled in Computer Setup cannot be enabled from within Windows NT 4.0 or Windows 2000 Professional.
  - ❑ To enable or disable a device or function in Computer Setup, follow the instructions below.
  - ❑ To enable or disable a device or function from within Windows NT 4.0 or Windows 2000 Professional, select Start→Settings→Control Panel→double-click Compaq Computer Security→Port Security tab.
- To enable or disable a device in Computer Setup—
  1. Turn on or restart the computer, then press F10 when the blinking cursor appears upper-right on the screen.
    - To change the language, press F2.
    - For navigation instructions, press F1.



2. Select Security → Device Security, enter your preferences, then press F10.

NOTE: Settings for a DVD-ROM drive can be entered in the CD-ROM field.

3. To save your preferences, close Computer Setup, and restart the computer, select File → Save Changes and Exit, then press Enter.
4. When you are prompted to confirm your action, press F10.

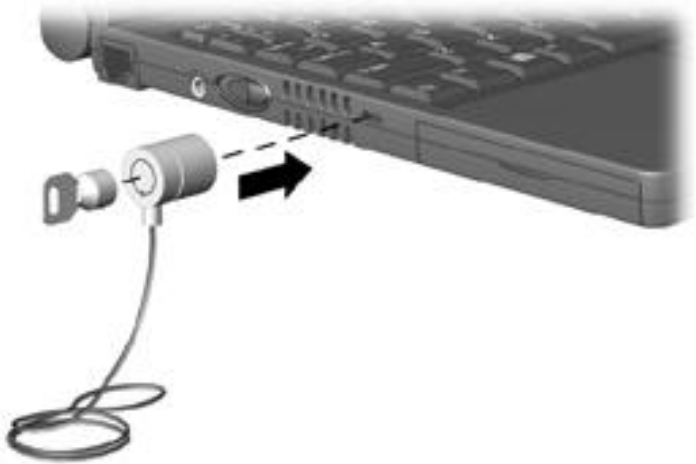
## Securing the Computer Hard Drive in the Bay

1. Turn the computer bottom side up and place the computer on a flat surface.
2. Insert the hard drive screw, securing the hard drive in the computer hard drive bay.



## Connecting an Optional Cable Lock

Loop the cable around a secure object, then pull the lock through the cable loop and insert the cable lock into the security cable slot. When the cable lock is installed, the primary hard drive cannot be removed from the hard drive bay.



# chapter 12

## INTELLIGENT MANAGEABILITY

### Finding Intelligent Manageability Help

Intelligent Manageability comprises software tools that can help you and/or your Information Services department track, troubleshoot, protect, and maintain the system.

Intelligent Manageability uses such tools as Insight Management Agents, Compaq Diagnostics for Windows, and Computer Setup to facilitate the following:

- **Asset Management**—Provides detailed configuration and diagnostic information.
- **Fault Management**—Prevents, predicts, and alerts to impending hardware problems.
- **Security Management**—Protects against unauthorized access to your work, system information, and components.
- **Configuration Management**—Provides the latest drivers, utilities, and other software. Web Agent, for example, enables you and your Information Services department to view computer configuration information using Web technology. To access this feature, select Start→Compaq Information Center→Insight Web Management.

To learn more about Insight Management Agents and access instructions for using them, select Start→Compaq Information Center→Intelligent Manageability.

# Using Fault Management Alerts

## Identifying a Fault Management Alert

The computer is preset to monitor certain hardware components. If problems are found, the following alerts may display.

- **Hard drive alert**—Warns up to 72 hours in advance of impending hard drive problems; can initiate an optional software backup.
- **System temperature alert**—Prevents critical overheating. As the system temperature rises, this feature first adjusts fan and CPU (central processing unit) speed, then displays an alert, then shuts down the system if necessary.
- **Battery fault alerts**—Report charging problems and battery pack failure.
- **Monitor alert**—Diagnoses and displays external monitor operational problems.
- **Memory alert**—Reports memory expansion board configuration changes when a memory expansion board is removed, added, or reconfigured. The report includes both the previous and current configurations.

## Setting Fault Management Alert Preferences

All alerts can be displayed on-screen whether or not the computer is connected to the network. When the computer is connected to the network, all alerts except a battery charge fault alert are reported to the network console.

Alert preferences are set in the Alert Properties window.

- To access Alert Properties, select the Intelligent Manageability icon on the taskbar.
- For Help, select the Help button in Alert Properties.

For information about setting alerts in a networked environment, select Start → Compaq Information Center → Intelligent Manageability, then search for Configuring Compaq Insight Management Agents.

# chapter 13

## MAINTENANCE, SHIPPING, AND TRAVEL

### Updating the System

#### Obtaining Customized Update Information with Info Messenger

You can set up a customized search of the Compaq Internet site for new information about the software, firmware, and hardware in your system by registering with Compaq Info Messenger.

- To access Compaq Info Messenger, go to the Compaq Internet site at <http://www.compaq.com>, then select Info Messenger.
- To register, follow the instructions on the Info Messenger page. When your registration is complete, you can
- Run your customized search whenever you prefer from the Info Messenger page.
- Set Info Messenger to send you the information by email as it becomes available.

## Obtaining Software Updates and Enhancements by Subscription

You can subscribe to the *Compaq Support Software CD* that contains the latest available device drivers, system ROMs, and utilities, as well as detailed software support information and instructions. For ordering, cost, and language information, refer to “Worldwide Telephone Numbers” in Appendix A to contact a Compaq authorized dealer, reseller, or service provider. Ordering information is also available at the Compaq Internet site at <http://www.compaq.com>.

## Obtaining Software Updates from the Compaq Internet Site

You can obtain all Compaq system software and firmware, with download and installation instructions, from the Compaq Internet site at <http://www.compaq.com>.

NOTE: Most software available at the Compaq Internet site is packaged in a compressed file called a *SoftPak*. A compressed file containing a system read only memory (ROM) is called a *ROMPak*.

## Updating the System ROM

- Compaq recommends that you
  - Install each system read only memory (ROM) update for your computer model as it becomes available.
  - Confer with your Information Services department before updating your system ROM if your system is connected to a network.
- Updating your system ROM will not affect your system software settings.

## Displaying the Version of the Installed System ROM

To display the ROM version number in Computer Setup:

1. Turn on or restart the computer, then press F10 when the blinking cursor appears upper-right on the screen.
2. To change the language, press F2.
3. To view the version number of the installed system ROM, select File→System Information.
4. To close Computer Setup and restart the computer, select File→Save Changes and Exit or File→Ignore Changes and Exit.

## Obtaining a System ROM

You can obtain the latest system ROM for the computer at no charge by mail or from the Internet.

- To order a system ROM, refer to “Worldwide Telephone Numbers” in Appendix A to contact a Compaq authorized dealer, reseller, or service provider.
- To download a system ROM from the Compaq Internet site:
  1. Obtain a formatted 1.44-megabyte diskette.
  2. Go to the Downloadables area at <http://www.compaq.com>.
  3. Find the system ROMPaq for your computer model.
  4. Follow the instructions on (or linked to) the ROMPaq download page to download the ROMPaq and copy it onto the diskette.
  5. Remove the diskette from the diskette drive.

## Installing a System ROM from a Diskette

1. Shut down the computer.
2. Connect the External Diskette Drive. Refer to Chapter 2 for instructions.
3. Connect the computer to an electrical outlet with the power cord.



**CAUTION:** The system ROM will not install properly if the computer is docked or running on battery power. During the installation, do not shut down or unplug the computer.

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4. Insert the diskette containing the system ROM into the diskette drive.
5. Turn on the computer, then follow the on-screen instructions.
6. When the installation is complete, remove the diskette, then shut down the computer.

## Reinstalling Software

The Quick Restore package included with the computer contains the software preinstalled in the computer and instructions for restoring it. To order Quick Restore software on diskettes, contact your local Compaq technical support. Refer to Appendix A for the telephone number of Compaq technical support in your region.



**CAUTION:** To prevent file corruption and ensure that the correct drivers install:

- Meet these two requirements before you begin to reinstall system software:
    - The computer must be plugged into an electrical outlet with the power cord.
    - The computer must not be docked in a docking base.
  - During the restoration:
    - Do not shut down or unplug the computer.
  - Do not remove or insert a drive.
-



# Replacing the Lithium Real-time Clock Battery

When your computer no longer automatically displays the correct date and time, it may mean the battery providing power to the real-time clock needs to be replaced. Battery life is usually about five to ten years under normal use. Contact your authorized Compaq service provider for a replacement battery.

To replace the real-time clock (RTC) battery:



**WARNING:** The real-time clock battery compartment and the memory compartment are the only user-accessible internal compartments on the computer. All other areas that require a tool to access should be opened only by a Compaq authorized service provider.

---

1. Turn off the computer.
2. Unplug the AC Adapter and disconnect any external devices.
3. Turn the computer bottom side up.
4. Remove the RTC battery cover (refer to "Bottom Components" in Chapter 1).
5. Lift the RTC battery from the compartment, and use tweezers to gently disconnect the connector.
6. Insert the new RTC battery plug into the keyed connector.
7. Position the RTC battery inside the compartment so that the wires are underneath the battery disc.
8. Replace the battery cover and turn the computer top side up.
9. Reconnect the AC Adapter and any external devices.
10. Turn on the computer, then run Computer Setup to reconfigure the system (refer to Chapter 14, "Configuration and Diagnostic Utilities").

To dispose of the old RTC battery, consult the Battery Notice in Appendix B.

# Caring for the Computer



**WARNING:** To reduce the risk of electric shock or damage to internal components, do not allow liquids to drip into the computer keyboard.



**CAUTION:** To prevent possible damage to the display, do not place anything on top of the computer when it is closed.



**CAUTION:** Soap or other cleaning products can damage the screen and discolor the plastic.

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- Keep the computer away from excessive moisture and temperature extremes. Do not expose the computer to liquids or precipitation.
- Avoid exposing the computer to direct sunlight or strong ultraviolet light for extended periods of time.
- If the computer will not be used for a week or more, shut down the computer.
- If the computer will be disconnected from an external power source for more than two weeks:
  1. Shut down the computer.
  2. Remove all battery packs and store them in a cool, dry place.
- As needed, clean the screen and exposed computer surfaces with a soft cloth moistened only with water. Do not spray liquids directly on the computer.

## Preparing the Computer for Shipping or Travel

1. Back up your information.
2. Remove all CD-ROMs, DVD-ROMs, diskettes, or PC Cards.
3. Shut down the computer.
4. If the computer will be disconnected from external power source for more than two weeks, remove all battery packs and store them in a cool, dry place.
5. Turn off, then disconnect all external devices.

6. If you are shipping the computer, place it in the original packing box or similar protective packaging, then label the package “Fragile: Handle With Care.”

## Traveling with the Computer

- Take along a backup of your information. Do not pack the backup with the computer.
- Hand carry the computer. Do not check it with your luggage.
- Do not expose the computer or diskettes to a magnetic security detector.
  - The security device that examines carry-ons placed on a conveyer belt uses x-rays and is safe for the computer and diskettes.
  - The walk-through security device and the handheld security wands are magnetic and may damage the computer or diskettes.
- If you plan to use the computer during a flight, check in advance with the airline: in-flight computer use is at the discretion of the airline.
- If you expect to encounter climatic extremes, review the "Operating Environment" section in Appendix D.
- If you are traveling internationally, consult with a Compaq authorized dealer, reseller, or service provider about power cord and adapter requirements for each location in which you plan to use the computer. (Voltage, frequency, and plug configurations vary.) To contact a Compaq authorized dealer, reseller, or service provider near you, refer to “Worldwide Telephone Numbers” in Appendix A.



**WARNING:** To reduce the risk of electric shock, fire, or damage to the equipment, do not attempt to power the computer with a voltage converter kit sold for appliances.

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- If you are traveling internationally, consult with a Compaq authorized dealer, reseller, or service provider about the necessity of a country-specific modem adapter and where you can purchase one.
- Check the computer-related Customs regulations for each country on your itinerary.

# chapter 14

## CONFIGURATION AND DIAGNOSTIC UTILITIES

### Selecting Computer Setup or Compaq Diagnostics for Windows

The computer features two system management utilities.

- **Computer Setup** is a system information and customization utility that can be used even when your operating system is not working or will not load. It includes settings that are not available in Windows.
- **Compaq Diagnostics** is a system information and diagnostic utility that is used within your Windows operating system. Use this utility whenever possible to:
  - Display system information.
  - Test system components.
  - Troubleshoot a device configuration problem in Windows 95, Windows 98, or Windows 2000 Professional.

**NOTE:** It is not necessary to configure a device connected to a USB connector on the computer or an optional docking base.

### Using Computer Setup

All information and settings in Computer Setup are accessed from the File, Security, or Advanced menus. The items on each of these menus are described in this section.

1. Turn on or restart the computer. When the blinking cursor appears upper-right on the screen, press F10.
  - To change the language, press F2.
  - To view navigation information, press F1.
  - To return to the Computer Setup menu from anywhere in Computer Setup, press Esc.
2. Select the File, Security, or Advanced menu.
3. To close Computer Setup and restart the computer
  - Select File→Save Changes and Exit, then press Enter.
  - or
  - Select File→Ignore Changes and Exit, then press Enter.
4. When you are prompted to confirm your action, press F10.

## Selecting from the File Menu

Selecting from the File Menu	
Begin here	To do this
System information	<ul style="list-style-type: none"> <li>■ View identification information about the computer, a docking base, and battery packs.</li> <li>■ View specification information about the processor, memory and cache size, and system ROM.</li> </ul>
Save to floppy	Save system configuration to a formatted 720K or larger diskette.
Restore from floppy	Restore system configuration from a diskette.
Restore defaults	Replace configuration settings in Computer Setup with factory default settings. (Identification information is retained.)
Ignore changes and exit	Cancel changes entered during the current Computer Setup session, then exit and restart the computer.
Save changes and exit	Save changes entered during the current Computer Setup session, then exit and restart the computer.

## Selecting from the Security Menu

Selecting from the Security Menu	
Begin here	To do this
Setup password*	Enter, change, or delete a setup password.
Power-On password*	Enter, change, or delete a power-on password.
DriveLock passwords*	Enable/disable DriveLock; change a DriveLock User or Master password.
Password options* NOTE: Password options is selectable only when a power-on password is set.	Enable/disable <ul style="list-style-type: none"><li>■ QuickLock</li><li>■ QuickLock on Suspend</li><li>■ QuickBlank</li><li>■ QuickLock at system startup</li></ul> NOTE: To enable QuickLock on Suspend or QuickBlank, you must first enable QuickLock.
Device security*	Enable/disable <ul style="list-style-type: none"><li>■ Ports or diskette drives.</li><li>■ Diskette write.</li><li>■ CD-ROM or diskette startup.</li></ul> NOTE: Settings for a DVD-ROM can be entered in the CD-ROM field.
System IDs	Enter identification numbers for the computer, a docking base, and battery packs.
*For more information about passwords, QuickLock, DriveLock, and disabling devices, refer to Chapter 11.	

# Selecting from the Advanced Menu

Selecting from the Advanced Menu	
Begin here	To do this
Language (or press F2)	Change the Computer Setup language.
Boot Options	<div>Enable/disable<ul style="list-style-type: none"><li>■ QuickBoot, which starts the computer more quickly by eliminating some startup tests. (If you suspect a memory failure and want to test memory automatically during startup, you may want to disable QuickBoot.)</li><li>■ MultiBoot, which enables you to set a startup sequence that can include any drives and PCI network adapters in the system. For instructions, refer to “Changing the Startup Sequence with MultiBoot” in Chapter 4.</li></ul></div>
Device Options	<div><ul style="list-style-type: none"><li>■ Enable/disable the embedded numeric keypad at startup.</li><li>■ Enable multiple standard pointing devices at startup, or disable this feature so the computer supports only a single (usually non-standard) pointing device at startup.</li><li>■ Enable/disable USB legacy support for a USB keyboard. (When USB legacy support is enabled, the keyboard will work even when a Windows operating system is not loaded.)</li><li>■ Set an optional external monitor or overhead projector connected to a video card in a docking base as the primary device. (When the computer display is set as secondary, the computer must be shut down before undocking.)</li><li>■ Change the parallel port mode from EPP (default) to standard, bidirectional, EPP, or ECP.</li><li>■ Enable/disable the Intel Pentium III with SpeedStep technology processor settings or set the computer to run in Battery Optimized mode in all circumstances.</li><li>■ Change Product Identification</li></ul></div>

## Using Compaq Diagnostics for Windows

- When you access Compaq Diagnostics for Windows, a scan of all system components appears on the screen before the Compaq Diagnostics window opens.
- You can display more or less information from anywhere within Compaq Diagnostics for Windows by selecting Level on the menu bar.
- Compaq Diagnostics for Windows are designed to test Compaq components. If non-Compaq components are tested, the results may be inconclusive.

### Displaying System Information

1. To access Compaq Diagnostics for Windows, select Start→Settings→Control Panel→Compaq Diagnostics.
2. Select Categories, then select a category from the drop-down list.
  - To save the information, select File→Save As.
  - To print the information, select File→Print.
3. To close Compaq Diagnostics for Windows, select File→Exit.

### Running a Diagnostic Test

1. To access Compaq Diagnostics for Windows, select Start→Settings→Control Panel→Compaq Diagnostics.
2. Select the Test tab.
3. In the scroll box, select the category or device you want to test.
4. Select a test type.
  - **Quick Test**—Runs a quick, general test on each device in a selected category.



- **Complete Test**—Performs maximum testing on each device in a selected category.
  - **Custom Test**—Performs maximum testing on a selected device.
    - To run all tests listed beneath your selection, select the Check All button.
    - To run only the tests you select, select the Uncheck All button, then select the check box beside each test you want to run.
5. Select a test mode.
- **Interactive Mode**—Provides maximum control over the testing process. You determine whether the test was passed or failed and may be prompted to insert or remove devices.
  - **Unattended Mode**—Does not display prompts. If errors are found, they are displayed when testing is complete.
6. Select the Begin Testing button.
7. Access the test information. To view test information, select a report.
- **Status tab**—Summary of the tests run, passed, and failed during the current testing session.
  - **Log tab**—Lists tests run on the computer, the numbers of times each test has run, the number of errors found on each test, and the total run time of each test.
  - **Error tab**—Lists all errors found on the computer with their error codes.
8. To save
- **Test information**—Select the Save button on the Log tab.
  - **Error reports**—Select the Save button on the Error tab.
9. To close Compaq Diagnostics for Windows, select File→Exit.

# chapter 15

## TROUBLESHOOTING

Problems that occur while using the computer may originate in the computer, the operating system, a software application, or an optional docking base or external device.

- For problems that may not originate in the computer, refer to your operating system, docking base, software application, or external device documentation.
- For problems that may originate in the computer or system software, refer in this chapter
  - First, to the “Quick Solutions Checklist.”
  - Then, to the troubleshooting tables.
- If the problem persists, refer to
  - Chapter 14, for information about checking configurations and running diagnostic tests.
  - Appendix A, for information about using the Compaq Support Forum or contacting a Compaq authorized dealer, reseller, or service provider.

**IMPORTANT:** If you take the computer to a Compaq authorized dealer, reseller, or service provider for service, provide all necessary passwords.

## Quick Solutions Checklist

NOTE: To reset a locked system, press and hold the suspend button while pressing the power button.

- Is adequate power available to the computer?
  - If the computer is connected to an electrical outlet
    - Are all power cord or external AC Adapter connections secure?
    - Is the electrical outlet providing a standard power supply?
  - If the computer is running on a battery pack, is the battery pack in the computer fully charged?
- Is the system turned on?
- Is the **latest available** system ROM installed?

NOTE: For instructions, refer to “Updating the System ROM” in Chapter 13.

- If the problem relates to an external device
  - Is the device securely connected to the appropriate connector?
  - Is the device receiving reliable electrical power?
  - Is the device turned on?
  - Are all necessary device drivers installed and loaded?

# Solving Audio Problems

Solving Audio Problems		
Problem	Possible Cause	Solution
System warnings or alerts are not audible.	Volume is muted.	To increase volume, press the Fn+F5 hotkeys, then adjust the volume.
	The system warning or alert is disabled.	To enable low battery and critical low battery warnings, refer to Chapter 3, "Managing Power."  To enable Intelligent Manageability fault management alerts, refer to "Using Fault Management Alerts" in Chapter 12.
Internal speakers produce no sound.	Volume is muted or turned down.	Press the Fn+F5 hotkeys, then adjust the volume.  Adjust the volume in Multimedia or in the software application.
	External speakers, headphones, or a headset is connected to the computer.	Use the external speakers, headphones, or headset.  To use the internal speakers, disconnect the external speakers, headphones, or headset.
External speakers, headphones, or a headset produces no sound.	Volume is muted or turned down.	Press the Fn+F5 hotkeys, then adjust the volume.  Adjust the volume in Multimedia or in the software application.
	Sound source is not selected in Multimedia.	Select the sound source in Multimedia.
External microphone does not work.	The recording source is not selected in Multimedia.	Select the recording source in Multimedia.
	The recording level volume needs adjusting.	Adjust the recording level volume in Multimedia.

# Solving Battery Problems

Solving Battery Problems		
Problem	Possible Cause	Solution
Computer beeps 5 times and the battery light is blinking.	Battery charge is low, and the computer has entered a low-battery condition.	<div>■ Connect the computer to external power.</div> <div>or</div> <div>■ Replace the battery pack with a fully charged battery pack.</div> <div>or</div> <div>■ Shut down the computer or press Fn + the suspend button to initiate Hibernation.</div>
System beeps twice and initiates Hibernation.	Computer has entered a critical low-battery condition while Hibernation is enabled.	Connect the system to external power or install a fully charged battery pack, then slide the power switch to restore from Hibernation.
System beeps twice and the power/suspend light is blinking.	Computer has entered a critical low-battery condition while Hibernation is disabled.	To prevent loss of unsaved work, immediately connect the system to external power or install a fully charged battery pack.
Low-battery warnings or alerts are not audible.	Volume is muted or turned down. The warning or alert is disabled.	<div>Press the Fn+F5 hotkeys, then adjust the volume.</div> <div>To enable low battery and critical low battery warnings, refer to “Using Power Preferences” in Chapter 4.</div> <div>To enable Intelligent Manageability fault management alerts, refer to “Using Fault Management Alerts” in Chapter 12.</div>
Battery pack is warm after charging.	Warming occurs during charging.	No action is required.

Continued

Problem	Possible Cause	Solution
Computer shut down and work in memory was lost when a battery pack that was the only power source available to the system was replaced.	The computer was not turned off before replacing the battery pack.	Restore power, then turn on the computer with the power switch.
Date and time must be reset each time the computer is turned on.	The real-time clock battery has reached the end of its useful life.	Restore power, then turn on the computer with the power switch. Replace the real-time clock battery. Refer to Chapter 13 for procedures.
Battery light does not turn on to indicate that battery pack is charging; battery pack does not charge.	The battery pack has reached the end of its useful life.	Replace the battery pack.
	Battery pack was exposed to temperature extremes.	Allow time for the battery pack to reach room temperature.
	Battery pack is already fully charged.	No action is necessary.
Battery charge does not last as long as expected.	Battery conservation settings, practices, and procedures are not being used.	Refer to "Conserving Battery Power" in Chapter 3
	Battery pack has partially self-discharged.	Refer to "Storing the Battery Pack" in Chapter 3.
	Battery pack is being exposed to temperature extremes.	Keep battery pack within the recommended operating or storage temperature ranges. Refer to Appendix D for operating ranges or to "Storing the Battery Pack" in Chapter 3 for storage ranges.
Battery charge displays do not accurately report the charge remaining in a battery pack.	The battery pack requires recalibration.	Refer to "Calibrating a Battery Pack" in Chapter 3.
	The battery pack has reached the end of its useful life.	Replace the battery pack.

# Solving Drive Problems

## Solving Hard Drive Problems

Solving Hard Drive Problems		
Problem	Possible Cause	Solution
System does not recognize a hard drive.	The drive is not seated properly.	Remove, then reinsert the drive.
	The drive is damaged.	Run scandisk on the drive.
	The drive was inserted while the system was on or in Suspend (Standby) or in Hibernation.	Shut down the computer before inserting or removing a hard drive.
System cannot start up from a hard drive.	The drive does not have the necessary files to start up and operate the computer.	Start up from the hard drive supplied with the computer or install startup software on the additional drive.
Hard drive cannot be accessed.	DriveLock protection is enabled on the drive.	Enter DriveLock User or Master password or remove DriveLock protection from the drive.
DriveLock settings cannot be accessed in Computer Setup.	The DriveLock settings are accessible only when you enter Computer Setup by turning on (not restarting) the computer.	Turn the computer off, then on, then press F10 when the blinking cursor appears upper-right on the screen.

## Solving CD -ROM and DVD -ROM Drive Problems

Solving CD-ROM Drive and DVD-ROM Drive Problems		
Problem	Possible Cause	Solution
System does not recognize a CD-ROM drive or DVD-ROM drive.	The drive is not seated properly.	Remove, then reinsert the drive.
	System software does not support the drive.	Install appropriate drivers and/or system ROM upgrade.
	The drive is damaged.	To verify that the problem is with the drive, try using another drive in the same bay.
CD-ROM drive or DVD-ROM drive cannot read a CD-ROM or DVD-ROM.	The computer is running a retail version of the operating system, and the drive was inserted while the system was on or in Suspend (Standby) or Hibernation.	1. Shut down the computer 2. Reinsert the drive 3. Turn on the computer.
	A bootable CD-ROM is not in the CD-ROM drive.	Turn over the CD-ROM or DVD-ROM.
System cannot start up from a CD-ROM.	CD-ROM boot ability is disabled.	Enable CD-ROM boot ability.
	The system cannot initiate Suspend (Standby) while auto insert notification is turned on.	Turn off auto insert notification. Refer to Chapter 3 for procedures.
System does not initiate Suspend (Standby) while a CD-ROM or DVD-ROM is in the system.		



## Solving Diskette and SuperDisk LS -120 Drive Problems

Solving Diskette and SuperDisk LS-120 Drive Problems		
Problem	Possible Cause	Solution
System does not recognize a diskette or SuperDisk LS-120 drive.	The drive is not seated properly. The drive may be damaged.	Remove, then reinsert the drive. To verify that the problem is with the drive, try using another removable drive in the same bay.
	The computer is running a retail version of the operating system, and the drive was inserted while the system was on, in Suspend (Standby), or in Hibernation.	1. Shut down the computer 2. Reinsert the drive 3. Turn on the computer.
Diskette drive or SuperDisk LS-120 drive cannot read or write to a diskette.	Diskette is not compatible with the drive.	Refer to your drive documentation for information about compatible diskettes.
	Diskette is not formatted.	Format the diskette.
	Diskette drive is disabled.	Enable the diskette drive; see Chapter 11.
	Diskette is write-protected.	Disable the write-protection or use another diskette that is not write-protected.
System cannot start up from a diskette drive.	A bootable diskette is not in the drive.	Verify that a diskette with the necessary system files is in the drive.
	Diskette boot ability is disabled.	Enable the diskette boot; see Chapter 11.

# Solving Infrared Problems

Solving Infrared Problems		
Problem	Possible Cause	Solution
Cannot link with another infrared-equipped computer or device.	Computer is running Windows NT 4.0.	Windows NT 4.0 does not support infrared communication.
	Appropriate software is not running on both devices.	Install the appropriate software on the second device and start the program on both devices.
	Infrared port on computer is disabled.	To enable the infrared port, Select Start→Settings→Control Panel→Infrared.
	Infrared Monitor search is disabled.	To enable Infrared Monitor search: 1. Select the Infrared icon in the taskbar→Options tab. 2. Select the Search For and Provide Status for Devices in Range check box.
	Target device is not IrDA-compliant.	Check documentation of target device and make recommended changes.
	Interrupt request (IRQ) conflict.	Check IRQ assignments for conflicts, then reassign if necessary. See Appendix D for IRQ port information.
	Baud rate, # bits, stop byte, or parity conflict.	Select the same baud rate, # bits, stop byte, and parity setting for both devices.*
System does not initiate Suspend while infrared port is enabled.	A physical condition exists that affects the connection.	Refer to "Data transmission problem" in this table.
	The system cannot initiate Suspend while Infrared Monitor search is enabled.	To disable Infrared Monitor search, select Start→Settings→Control Panel→Infrared→Options tab, then remove the check from the Search for and Provide Status for Devices in Range check box.

Continued

Problem	Possible Cause	Solution
Data transmission problem.	Direct sunlight, energy-saving fluorescent light, or flashing incandescent light is close to the infrared connections.	Remove the interfering light source(s). Move the infrared ports closer together. Select a slower fixed baud rate for both devices.*
	Interference from other infrared-equipped devices.	Keep infrared-equipped remote control units, such as wireless headphones, pointed away from the infrared connection.
	Dirty infrared lens.	Clean the lens with a lint-free cloth.
	Distance.	Verify that the infrared ports are not more than 1.5 feet (0.5 meter) apart.
	Movement.	Do not move either unit during data transmission.
	Orientation.	Adjust the infrared ports so that they point within 15 degrees of each other.
	Physical obstruction.	Remove any objects between the two infrared ports that could be interfering with the line-of-sight data transmission.
*For instructions, refer to your infrared communications software documentation.		

# Solving Keyboard and Pointing Device Problems

Solving Keyboard and Pointing Device Problems		
Problem	Possible Cause	Solution
Some keys type numbers instead of letters and num lock light is on.	The embedded numeric keypad is enabled.	Toggle Fn+Num Lk to disable the embedded numeric keypad.
Embedded numeric keypad does not work.	The embedded numeric keypad is not enabled.	Toggle Fn+Num Lk to enable the embedded numeric keypad.
Hotkeys do not work on external keyboard.	Hotkeys commands are implemented differently on an external keyboard.	To enter a hotkeys command on an external keyboard, rapidly press the Scroll Lock key twice, then immediately press the second key only of the hotkeys combination. NOTE: The Fn+F6 hotkeys cannot be used on an external keyboard connected by USB.
Keyboard and pointing device are locked.	QuickLock is initiated.	To exit QuickLock, enter the power-on password.
External mouse does not work.	The external mouse is not Microsoft-compatible.	In Computer Setup, select Advanced→Device Options, then select the Disable Multiple Pointing Devices check box.

# Solving LAN Problems

Problems and Solutions		
Problem	Possible Cause	Solution
Cannot connect to the network.	Modem/NIC card is not configured or LAN cable is not connected to the network.	Verify that the modem and NIC software has been installed. If not, refer to the sections on updating or reinstalling drivers.
		Check that the LAN cable is connected to the RJ-45 connector of the NIC and to the network.
		Go to Device Manager and verify that the network adapter has been properly installed and configured by checking to see that the:
		■ Network Adapter is listed.
		■ Proper Network Client is selected.
		■ Correct network protocols are enabled.
		■ Bindings are assigned to the NIC adapter.
		■ Network Domain or Workgroup is listed.
		Contact your Network Administrator to verify your proper network configuration.

Continued

Problem	Possible Cause	Solution
The NIC loses connection (Loss of Link).	The connection from the LAN cable to the network is loose or disconnected.	Disconnect, then reconnect, the LAN cable. Reestablish the network connection.
The computer will not power on when a wake-up packet is sent.	A wake-up packet was previously received by the computer.	The reception of a wake-up packet will set the adapter to a special state. This condition must be reset before the adapter will accept another wake-up packet and turn on the computer. Check the computer's BIOS for power settings.
	If you are connected to a hub or switch, the link LED on the back of the adapter is off.	The link LED on the back of the adapter should be on, even though the computer power is off. Try turning the computer on. If the LED now lights, the adapter is not receiving power in standby mode.
	If the link LED does not come on when the computer is turned on, a link is not established with the hub or switch.	Check the cabling or substitute it with a cable that has been verified to work correctly. Make sure the hub or switch is either 10BaseT or 100BaseTX and is turned on and fully functional. Check with your local Compaq authorized service provider for an updated BIOS.

# Solving Memory Problems

Solving Memory Problems		
Problem	Possible Cause	Solution
Memory count during Power-On Self-Test (POST) is incorrect.	Memory expansion board is installed incorrectly.	Remove, then reinstall memory expansion board as instructed in Chapter 4.
Computer beeps four times when turned on; power/suspend light is on, but screen is blank.	Memory expansion board is installed incorrectly. Memory expansion board or memory circuitry has failed.	Remove, then reinstall memory expansion board as instructed in Chapter 4. Contact your Compaq authorized service provider.
Hibernation does not work normally after increasing RAM with a memory expansion board.	The hard drive does not have enough space for the larger hibernation file.	Refer to "Managing Random Access Memory (RAM)" in Chapter 4.

# Solving Modem Problems

If you are troubleshooting a modem PC Card problem, refer also to "Solving PC Card Problems" in this chapter. If you are troubleshooting LAN problems, refer also to "Solving Local Area Network (LAN) Problems" in this chapter.

Solving Modem Problems		
Problem	Possible Cause	Solution
ERROR message.	Typing error.	If you are typing from the command line in terminal mode, verify, then retype the command.
Excessive line current sensed message.	Modem is connected to a digital line.	Connect the modem to a standard analog telephone line, then reestablish the connection.

Continued

Problem	Possible Cause	Solution
No dial tone, with or without NO DIAL TONE message.	You are not in your home country and the modem does not recognize the local dial tone.	Refer to the "Travel Connection Checklist" in Chapter 6. At the command line in terminal mode, type ATX3DT.
	Telephone service is not connected to the telephone wall jack.	Connect a telephone to the wall jack. If you do not hear a dial tone, contact your telephone service provider.
	A shared telephone line is in use.	Make sure another telephone or modem is not using the telephone line.
	Modem is connected to a digital line, such as an office PBX line.	Connect the modem to a standard analog telephone line, then reestablish the connection.
	Speaker Control AT Command (ATM) is set to 0.	<ol style="list-style-type: none"> <li>1. At the command line in terminal mode, type ATM1, then press Enter.</li> <li>2. Type ATH1 and listen for the sound of the dial tone.</li> </ol>
The modem or modem COM port is disabled. The modem is not responding to commands from the computer keyboard.		<p>Refer to "Disabling a Device" in Chapter 11.</p> <ol style="list-style-type: none"> <li>1. At the command line in terminal mode, type AT, then press Enter. <ul style="list-style-type: none"> <li>■ If the modem displays OK, the modem and computer are working together.</li> <li>■ If the modem displays ERROR, or does not respond, restart the computer and repeat steps 1 and 2.</li> </ul> </li> <li>2. Type ATDT and listen for a dial tone.</li> <li>3. Press any key to hang up the modem.</li> </ol>

Continued



Problem	Possible Cause	Solution
Modem sounds are not audible.	Modem speaker is turned off.	At the command line in terminal mode, type <code>ATM1</code> .
	System sound is muted or turned down.	Press the <code>Fn+F5</code> hotkeys, then adjust the volume.
Modem does not dial correctly.	Call Waiting may be interfering.	Disable Call Waiting before dialing.
		<ul style="list-style-type: none"> <li>■ For information about disabling Call Waiting, consult your operating system documentation.</li> <li>■ To obtain the disable call waiting code for your dialing area, consult your local telephone service provider.</li> </ul>
Clicking sound and modem does not connect.	The modem is connected to a digital line. NOTE: The EXCESS LINE CURRENT SENSED message does not display if the current is under 100mA.	Connect the modem to a standard analog telephone line, then reestablish the connection.
Modem does not connect.	The error correction feature of your modem software is interfering.	Disable error correction (&K0) and data compression (&M0) using AT commands. NOTE: To access AT commands and instructions for using them, select Start→Compaq Information Center→Modem Commands.

Continued

Problem	Possible Cause	Solution
Modem does not connect at highest speed.	Line conditions in your area or in the area you are calling may not support the highest connect speeds.	Have your telephone line checked by your local telephone service provider. Try dialing an alternate telephone number for the service you are using.
	Another device on your telephone line may be causing interference.	Hang up an extension telephone and disconnect any other devices that may be using the same telephone line, then redial.
	The telephone line does not support 56K implementation.	The 56K protocol requires that the telephone line contain no more than one analog-to-digital conversion. Try connecting from an alternate site.
	There is noise on the telephone line. The 56K protocol of an internal modem will fall back to lower speeds if the telephone line is too noisy for a high-speed connection.	Use another telephone line.  Change the Hang-up Delay S Register: At the command line in terminal mode, type <code>ATS10=150</code> , then press Enter. NOTE: This command causes the modem to take longer to disconnect even if there is no noise on the line.
Fax transmissions do not work.	Another communications software application is open.	Close the other communications application.
	Modem is receiving inadequate power.	Connect the computer to external power or If the computer must run from a battery pack, ■ Make sure the battery pack is fully charged. ■ Clear all power conservation selections.
	The wrong printer driver is selected.	Verify that you have selected the correct printer driver.

Continued

Problem	Possible Cause	Solution
Characters are garbled/transfer rates are slow.	There is noise in the telephone line.	Request a telephone line filter from your local telephone service provider.
	Settings on the sending and receiving modem do not match.	Use the same parity, modem speed, word length, and stop bits settings on both modems.
	The error correction feature of your modem software is interfering.	Disable error correction (&K0) and data compression (&M0) using AT commands. NOTE: To access AT commands and instructions for using them, select Start→Compaq Information Center→Modem Commands.
Modem loses connection.	Call Waiting may be interfering with the connection.	Disable Call Waiting before dialing. For information about disabling Call Waiting, consult your operating system documentation. To obtain the disable call waiting code for your dialing area, consult your local telephone service provider.
	Another device on your telephone line may be causing interference.	Hang up an extension telephone and disconnect any other devices that may be using the same telephone line, then redial.
	Hibernation was initiated; the computer reached a low-battery or critical low-battery condition.	<ol style="list-style-type: none"> <li>1. Restore power, if necessary.</li> <li>2. Slide the power switch to exit Hibernation, if necessary.</li> <li>3. Restart the communications software application.</li> </ol>
	Your service provider may have an inactivity timeout.	Ask your service provider if idle time on the line terminates the connection.

# Solving PC Card Problems

Solving PC Card Problems		
Problem	Possible Cause	Solution
Computer does not beep when PC Card is inserted, but PC Card works.	Volume is muted.	Press the Fn+F5 hotkeys, then adjust the volume.
	PC Card sound effects have been disabled. NOTE: PC Card sound effects are enabled by default in your operating system.	In Windows 95, Windows 98, or Windows 2000 Professional, refer to your operating system documentation. In Windows NT 4.0 with CardWare provided by Compaq select Start→Programs→CardWare.
Computer does not beep when PC Card is inserted, and PC Card does not work.	PC Card is upside down.	Remove the PC Card, then reinsert it with the label side up.
Computer beeps once when PC Card is inserted, and PC Card does not work.	The PC Card is recognized, but not properly configured.	For configuration instructions, refer to Chapter 8 and to the PC Card documentation.
Computer beeps twice when a storage PC Card is inserted, but the PC Card does not work.	You are trying to access a storage PC Card using the wrong drive letter.	Verify or change the drive letter assignment. For instructions, refer to your operating system documentation.
	The PC Card is not formatted.	To format a memory PC Card, run MCFORMAT in MS-DOS mode. To format an ATA PC Card, run ATAINIT, then run MCFORMAT in MS-DOS mode.

# Solving Power Problems

If the problem occurs while the computer is running on a battery pack, refer also to “Solving Battery Pack Problems.”

Solving Power Problems		
Problem	Possible Cause	Solution
Computer will not turn on when connected to external power if battery pack is in the computer.	Battery pack may be defective.	Remove or replace the battery pack.
Computer turned off while it was left unattended and power/suspend light is off.	System initiated a Hibernation timeout.	To restore from Hibernation, slide the power switch. To change a Hibernation timeout setting, refer to “Using Power Preferences” in Chapter 3.
Computer turned off while it was left unattended and will not turn on.	System initiated Hibernation and/or shut down because of a critical low-battery condition.	1. To restore power, replace the battery pack with a charged battery pack or connect to an external power source.* 2. To restore from Hibernation, slide the power switch.
Computer unexpectedly initiated Suspend (Standby), or turned off when it was docked.	The maximum operating temperature was exceeded.	Move the computer to a cooler environment and allow it to return to a comfortable room temperature. Make sure the vents and exhaust fan are not obstructed.
Computer beeps twice when you press Fn + suspend button.	Hibernation is turned off.	To turn on Hibernation, refer “Using Power Preferences” in Chapter 3.

Continued

Problem	Possible Cause	Solution
System does not initiate Suspend.	The system cannot initiate Suspend while Infrared Monitor search is enabled.	To disable Infrared Monitor search, select the Infrared icon in the taskbar→Options tab, then clear the Search For and Provide Status for Devices in Range check box.
	The system cannot initiate Suspend (Standby) while a CD-ROM or DVD-ROM is in the system and auto insert notification is turned on.	Remove the CD-ROM or DVD-ROM. To turn off auto insert notification, refer to Chapter 3.
*External power supplied through an optional Aircraft Power Adapter can be used to run the computer, but not to charge a battery pack.		

## Solving Screen Problems

Solving Screen Problems		
Problem	Possible Cause	Solution
Characters on computer display are dim.	Computer is in direct light. Screen brightness is set low.	Move the computer or tilt the display. To access screen brightness adjustments, press the Fn+F10 hotkeys. NOTE: For more information about setting screen brightness, refer to “Using Power Preferences” in Chapter 3.
Screen is blank.	QuickBlank is enabled.	Enter the power-on password.
	Suspend (Standby) is initiated.	Press the suspend button.
	Hibernation is initiated.	Slide the power switch.
	Computer is off.	Slide the power switch.

# Solving USB Problems

Solving USB Problems		
Problem	Possible Cause	Solution
External device connected to the USB connector does not work.	The computer is running Windows NT 4.0.	When the computer is running Windows NT 4.0, only two tiers are supported by the USB connector. These tiers can include no more than two hubs on the first tier and no more than one keyboard and one pointing device on the first or second tier.
External device connected to the USB connector does not work during startup (before Windows 95 or Windows 98 loads).	During startup, only two tiers are supported by the USB connector. These tiers can include no more than two hubs on the first tier and no more than one keyboard and one pointing device on the first or second tier.	Use the external device only after Windows 95, Windows 98, or Windows 2000 Professional has loaded. Reduce the number of connected external USB devices to no more than two hubs on the first tier, and no more than one keyboard and one pointing device on the first or second tier.
A New Hardware Found message displays although the external device was previously recognized.	The device was previously connected to a USB connector on a docking base.	No action is required. Connect the external device to the same USB connector each time.

Continued

## Solving USB Problems    Continued

Problem	Possible Cause	Solution
External devices in the sixth tier do not work.	Windows 95 and Windows 98 support up to five tiers.	Replace some hubs in the first five tiers with hubs containing additional sockets, then connect the devices in the sixth tier to the new hubs. Connect some external USB devices to other connectors.
External devices in lower tiers do not work.	An unpowered hub is connected to another unpowered hub.	Use only powered hubs. Make sure that all unpowered hubs are preceded by powered hubs in the USB chain.



# appendix A

## COMPAQ CUSTOMER SUPPORT

### Using the Compaq Support Forum

Personal technical support is available from the Compaq Support Forum at the Compaq website. You can either browse the postings as a guest, or register as a user and submit your own questions. Compaq responds to questions within one business day.

**To access the Compaq Support Forum**—Go to the Compaq website at <http://www.compaq.com>, then select Compaq Support Forum.

### Preparing to Call Technical Support

If you cannot solve a problem using the Compaq Support Forum or the troubleshooting sections in Chapter 15 of this guide, you may need to call Compaq technical support.

**To receive the fastest possible solution**—Have the following information available when you call:

- The computer
- Serial number and model description on the bottom of the computer
- Purchase date on invoice
- Conditions under which the problem occurred
- Error messages that have displayed
- Type of printer connected

- Operating system version number and registration number. To view these numbers, select Start→Settings→Control Panel→System→General tab
- System ROM version number and Computer Setup version number. To view these version numbers:
  1. Turn on or restart the computer.
  2. When the blinking cursor appears upper-right on the screen, press **F10**.
  3. Select File → System Information.
- Configuration and diagnostics information.

To obtain, save, or print configuration and diagnostic information, refer to Chapter 14 of this guide.

## Worldwide Telephone Numbers

**To use the following table**—Locate your country. Use the phone numbers for “Eastern Europe, Middle East, and Africa” for countries in those regions that are not listed individually.

**To view all available updates to the following table**—Go to [http://www.compaq.com/corporate/overview/world\\_offices.html](http://www.compaq.com/corporate/overview/world_offices.html)

**NOTE:** Telephone numbers are subject to change without notice.

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## Worldwide Telephone Numbers

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Location	Country Code	Telephone Number
<b>Argentina</b>		
General Information	+541	14 704 3800
<b>Australia</b>		
General Information	+61	1300 368 369
<b>Austria</b>		
General Information	+43	1 866 30-0
<b>Belgium</b>		
General Information	+32	2/713 13 00
<b>Bolivia</b>		
Call Center	+511	222 5012
<b>Brazil</b>		
General Information	+55	(11) 3046 7400
<b>Canada</b>		
General Information		1 905 707 1715
<b>Caribbean</b>		
Technical Support		1-800-OK-COMPAQ 1-800-652-6672
<b>Central America</b>		
Call Center	52	5 269 4980
<b>Chile</b>		
General Information	+562	290 6500
*Indicates domestic numbers not available internationally.		

*Continued*

**Worldwide Telephone Numbers** *Continued*

<b>Location</b>	<b>Country Code</b>	<b>Telephone Number</b>
<b>China</b>		
General Information	+86	800-8109900
Customer Support	+86	800-8106888
BBS	+86	10-62355567/62355581
<b>Colombia</b>		
General Information	+571	606 9191 9800 919 200
<b>Czech Republic</b>		
General Information	+420	2 61 108 1081
<b>Denmark</b>		
General Information	+45	45 90 45 90
<b>Eastern Europe, the Middle East, and Africa</b>		
Technical Support and General Information	+353	1 402 6833
<b>Ecuador</b>		
General Information	+593	225 4342
<b>Finland</b>		
General Information	+358	(0) 204 121
<b>France</b>		
General Information*	+33	0803 804 805 (0,99 FTTC/min)
<b>Germany</b>		
General Information*		0180/3 22 12 21(0.18 DM/min.)
<b>Greece</b>		
General Information	+30	1 6141371
<b>Hong Kong</b>		
General Information	+852	28681600
<b>Hungary</b>		
General Information	+36	80 COMPAQ (266-727 or 206-720)
<b>India</b>		
General Information	+91	80 559 6023
*Indicates domestic numbers not available internationally.		

*Continued*

**Worldwide Telephone Numbers** *Continued*

<b>Location</b>	<b>Country Code</b>	<b>Telephone Number</b>
<b>Indonesia</b>		
Technical Support		001 806 65 1111
<b>Ireland</b>		
General Information*	+972	01800 409 454
<b>Israel</b>		
General Information	+972	9 7623888
<b>Italy</b>		
Information*	+39	02 57590330
<b>Japan*</b>		
General Information*		0120 101589
<b>Korea</b>		
Product Information	+82	080 902 7777
<b>Luxembourg</b>		
General Information	+00352	49 13 02 (12,5FLUX/min)
<b>Malaysia</b>		
General Information		1800 80 1111
<b>Mexico</b>		
General Information	+52	5 269 4980
		001-800-711-4031
<b>Netherlands</b>		
General Information*	+31	0182 565888
<b>New Zealand</b>		
General Information	+64	9 307 3969
<b>Norway</b>		
General Information	+47	23 20 60 00
<b>Paraguay</b>		
Call Center	+541	14 704 3800
<b>Peru</b>		
General Information	+51	1 222 5012
<b>Philippines</b>		
Technical Support		1800 1 65 1 1111
*Indicates domestic numbers not available internationally.		

*Continued*

**Worldwide Telephone Numbers** *Continued*

<b>Location</b>	<b>Country Code</b>	<b>Telephone Number</b>
<b>Poland</b>		
General Information	+48	22 630 3535
<b>Portugal</b>		
General Information	+351	0808200808
<b>Puerto Rico</b>		
Call Center		1-800-OK-COMPAQ 1-800-652-6672
<b>Russia</b>		
General Information	+7	095 967 1700
<b>Singapore</b>		
General Information	+65	1800 395 1111
<b>Slovak Republic</b>		
General Information	+421	750 222 111
<b>South Africa</b>		
General Information	+27	11 356 4444
<b>Spain</b>		
General Information	+34	902 10 14 14
<b>Sweden</b>		
General Information	+46	200 27 00 00
<b>Switzerland</b>		
InfoLine*		0844 844 111
<b>Taiwan</b>		
General Information	+886	2 735 1000
<b>Thailand</b>		
General Information	+66	2 6540700 4
<b>Turkey</b>		
General Information	+90	(216) 391 8430
<b>United Arab Emirates (Dubai)</b>		
General Information	+97	14 818 100
<b>United Kingdom</b>		
General Information*		0845 270 4000
*Indicates domestic numbers not available internationally.		

*Continued*

**Worldwide Telephone Numbers** *Continued*

<b>Location</b>	<b>Country Code</b>	<b>Telephone Number</b>
<b>United States</b>		
Technical Support*		1-800-OKCOMPAQ (1-800-652-6672)
<b>Uruguay</b>		
Call Center	+541	14 704 3800
<b>Venezuela</b>		
General Information	+582	953 9705
<b>Vietnam</b>		
Technical Support	+84	4 823 0322
*Indicates domestic numbers not available internationally.		

## REGULATORY COMPLIANCE NOTICES

Throughout these regulatory notices, Compaq products are referred to by their regulatory agency series numbers.

### Regulatory Agency Series Numbers

Regulatory agencies worldwide use agency series numbers for product identification. Each approved product displays the assigned agency series number. To ensure continued safe and reliable operation, the products listed below should be used only with the Compaq PP2050 agency series of computers.

Product	Agency Series Number
■ Armada Personal Computer	PP2050
■ Mobile expansion unit	PP2055
■ Docking stations	PP1005, PP1006, & PP1007
■ AC Adapter	PPP003S, PP003SD, PPP003N
■ Battery packs	PP2051A, PP2051B
■ MultiBay battery pack	PP1001C
■ Battery charger	PP1003
■ Automobile Adapter	PP1004
■ External Diskette Drive	PP2056



# Telecom Network Approvals

The telecommunications device in your computer is approved for connection to the telephone network in the countries whose approval markings are indicated on the product label. Additional country approvals may be found on the Compaq website. To view these approvals, visit [www.compaq.com](http://www.compaq.com), click on Search, and perform a site search for the words “telecom network approvals.” If a selection is available for your product, you may view and print the approval marks or numbers.

## Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

## Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Compaq Computer Corporation may void the user's authority to operate the equipment.

## **Cables**

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods to maintain compliance with FCC Rules and Regulations.

## **Declaration of Conformity for Products Marked with the FCC Logo (United States only)**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions about your product, write to

Compaq Computer Corporation  
P. O. Box 692000, Mail Stop 530113  
Houston TX 77269-2000

or call 1-800-OKCOMPAQ (1-800-652-6672)

For questions about this FCC declaration, write to

Compaq Computer Corporation  
P. O. Box 692000, Mail Stop 510101  
Houston TX 77269-2000

or call 281-514-3333

To identify your product, refer to the part, series, or model number found on the product.

## **Canadian Notice**

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

## **Avis Canadien**

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## Japanese Notice

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境でを使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

## Airline Travel Notice

Use of electronic equipment aboard commercial aircraft is at the discretion of the airline.

## Energy Star® Compliance

The Compaq PP2050 agency series of computers are compliant with the U.S. Environmental Protection Agency (EPA) Energy Star® Computers Program 3.0. The EPA Energy Star® logo does not imply endorsement by the EPA. As an Energy Star® Partner, Compaq Computer Corporation has determined the product meets the Energy Star® guidelines for energy efficiency.

## Power Cords

If you were not provided with a power cord for your computer or for an AC power accessory intended for use with your computer, you should purchase a power cord that is approved for use in your country.

The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product. In addition, the diameter of the wire must be a minimum of 0.75 mm<sup>2</sup>/18AWG, and the length of the cord must be between 5 feet (1.5 m) and 6½ feet (2 m). If you have questions about the type of power cord to use, contact your Compaq authorized service provider.

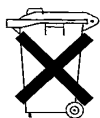
A power cord should be routed so that it is not likely to be walked on or pinched by items placed upon it or against it. Particular attention should be paid to the plug, electrical outlet, and the point where the cord exits from the product.

# Battery Notice



**WARNING:** To reduce the risk of fire or burns, do not disassemble, crush, puncture, short external contacts, or dispose of battery packs or internal batteries in fire or water. An internal battery should be replaced only by a Compaq authorized dealer using the Compaq spare part for this computer.

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In North America, dispose of battery packs or internal batteries by taking advantage of the Compaq battery recycling program. You will be provided with a postage-paid battery pack mailer preaddressed to a reclamation facility where the metals are recycled. Call the telephone number listed for your location in Appendix A for more information.

In Europe, do not dispose of batteries with general household waste. Dispose of or recycle them by using the public collection system or returning them to Compaq, your authorized Compaq partners, or their agents.

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# Laser Safety

All Compaq systems equipped with laser products comply with appropriate safety standards, including IEC 825. With specific regard to the laser, the equipment complies with laser product performance standards set by government agencies for Class 1 laser products. It does not emit hazardous light; the beam is totally enclosed during all modes of customer operation and maintenance.

## CDRH Regulations

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured from August 1, 1976. Compliance is mandatory for products marketed in the United States.



**WARNING:** Use of controls or adjustments or performance of procedures other than those specified herein or in the laser product installation guide may result in hazardous radiation exposure.

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**CLASS 1 LASER PRODUCT**

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This system is classified as a Class 1 laser product. This label appears on the laser product.

## Laser Information

Laser Type:	Semiconductor GaAlAs
Wave Length:	$780 \pm 35 \text{ nm}$
Divergence Angle:	$53.5^\circ \pm 1.5^\circ$
Output Power:	Less than $0.2\text{mW}$ or $10,869 \text{ W}\cdot\text{m}^{-2}\text{sr}^{-1}$
Polarization:	Circular
Numerical Aperture:	$0.45 \pm 0.04$

Only authorized technicians trained by Compaq should attempt to repair this equipment. All troubleshooting and repair procedures are detailed to allow only subassembly/module level repair. Because of the complexity of the individual boards and sub-assemblies, no one should attempt to make repairs at the component level or to make modifications to any printed wiring board. Improper repairs can create a safety hazard.

## European Union Notice

Products with the CE marking comply with Telecommunication Terminal Equipment and Satellite Earth Station Equipment (TTE & SES) Directive (98/13/EC), the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the European Community.

Compliance with these directives implies conformity to the following European Norms or Regulations (in brackets are the equivalent international standards and regulations):

- EN55022 (CISPR 22)—Electromagnetic Interference
- EN50082-1 (IEC801-2, IEC801-3, IEC801-4)—  
Electromagnetic Immunity
- EN60950 (IEC950)—Product Safety
- CTR21 (ETSI TBR21)—Attachment requirements for  
connection to the analogue PSTNs of terminal equipment

The equipment has been approved in accordance with Council Decision 98/482/EC for pan-European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point. In the event of problems, you should contact your equipment supplier in the first instance.

The equipment is designed to work with all EU telephone networks. However, the equipment may have interworking difficulties for some connections on the EU public networks. Dialling by loop disconnect pulses is not intended to be used on the PSTN. This feature is only supported in consideration of PBX or other equipment which requires pulse dialling.

This device is designated to work with DTMF (multifrequency tone) dialling. Dialling by loop disconnect pulses (pulse dialling) is not intended to be used on the PSTN. This feature is only supported in consideration of PBX or other equipment that requires pulse dialling.

Network compatibility is dependent on software switch settings which are set automatically by the country selection. The user should contact the equipment supplier in case of difficulty in network settings.

Use the Country Select Software supplied with the product to configure your modem for the country in which you are currently located. Selecting a country other than the one in which you are currently located may cause your modem to be configured in a way that violates the telecommunication regulations/laws of that country. In addition, your modem may not function properly if the correct country selection is not made.

## **German Ergonomics Recommendation**

The Compaq PP2050 notebook computer is suitable for various business applications when traveling. The unit is not designed for continuous office use. When operating the PP2050 notebook in an office environment, we recommend you use the unit in conjunction with a docking base and external keyboard.

## **Safety Precautions for Modems**

Always follow these basic safety precautions when using a modem or telephone that is *not* cordless.



**WARNING:** When using this device, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

- Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.
- Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use this product to report a gas leak in the vicinity of the leak.
- Always disconnect the modem cable before opening the equipment enclosure or touching an uninsulated modem cable, jack, or internal components.
- If this product was not provided with a telephone line cord, use only No. 26 AWG or larger telecommunication line cord in order to reduce the risk of fire.

SAVE THESE INSTRUCTIONS

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## U.S. Regulations Governing the Use of Modems

This equipment complies with Part 68 of the FCC rules. Located on the bottom of the computer is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. Upon request, you must provide this information to your telephone company.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most areas (but not all), the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your telephone line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

The REN for this device does not exceed 1.0.



If your telephone equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But, if advance notice is not practical, you will be notified as soon as possible. You will also be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

An FCC-compliant, 6-position (RJ11C), modular plug telephone cable is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible 6-position modular jack which is FCC Part 68-compliant.

If you experience trouble with this telephone equipment, contact your local telephone company for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

For the Compaq Customer Support Center and your nearest Compaq Authorized reseller in North America, call 1-800-345-1518 or write:

Compaq Customer Support Center  
P.O. Box 692000  
Houston, Texas 77269-2000

# **Telephone Consumer Protection Act of 1991**

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone facsimile machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page, or on the first page of the transmission, the date and time it is sent and an identification of the business, or entity, or individual sending the message and the telephone number of the sending machine or such business, or entity, or individual.

## **Canadian Regulations Governing the Use of Modems**

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing the equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

An Industry Canada-compliant, 6-position (CA11A), modular plug telephone cable is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible 6-position modular jack which is FCC Part 68 / Industry Canada-compliant.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.



**CAUTION:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority or an electrician.

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The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices, subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

The Ringer Equivalence Number (REN) for this device does not exceed 1.0.

For the location of the authorized Canadian maintenance facility nearest you, call 1-800-OKCOMPAQ or contact:

Compaq Canada, Inc.  
45 Vogell Road  
Richmond Hill, Ontario L4B 3P6

## New Zealand Modem Statements

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment is not capable, under all operating conditions, of correct operation at the higher speeds for which it is designed. Telecom will accept no responsibility should difficulties arise in such circumstances.

This device is equipped with pulse dialling while the Telecom standard is DTMF tone dialling. There is no guarantee that Telecom lines will always continue to support pulse dialling.

Use of pulse dialling, when this equipment is connected to the same line as other equipment, may give rise to bell tinkle or noise and may also cause a false answer condition. Should such problems occur, the user should not contact the Telecom Faults Service.

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecom's Specifications:

- a. There shall be no more than 10 call attempts to the same number within any 30-minute period for any single manual call initiation, and
- b. The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next attempt.

Where automatic calls are made to different numbers, the equipment shall go on-hook for a period of not less than 5 seconds between the end of one attempt and the beginning of the attempt.

The equipment shall be set to ensure that calls are answered between 3 and 30 seconds of receipt of ringing (S0 set between 2 and 10). This ensures:

- a. A person calling your modem will hear a short burst of ringing before the modem answers. This confirms that the call has been successfully switched through the network.
- b. Caller identification (which occurs between the first and second ring cadences) is not destroyed.

This equipment does not fully meet Telecom's impedance requirements. Performance limitations may occur when used in conjunction with some parts of the network. Telecom will accept no responsibility should difficulties arise in such circumstances.

This equipment should not be used under any circumstances which may constitute a nuisance to other Telecom customers.

This equipment shall not be set to make automatic calls to the Telecom '111' Emergency Service.

## Macrovision Corporation Notice

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

## ELECTROSTATIC DISCHARGE

A discharge of static electricity from fingers or other electrostatic conductors may damage electronic components. Before handling electrostatic-sensitive components, discharge static electricity by one of the methods described in this appendix.

### Preventing Electrostatic Discharge

#### When Handling Drives

- Before handling a drive, discharge static electricity by touching the unpainted metal surface or lug nuts on the connectors on the back of the computer.
- Avoid touching connector pins on the computer, a drive, or a drive adapter.

#### When Installing Internal Components

- Keep components in their electrostatic-safe containers until you are ready to install them.
- Have everything needed for the installation within reach so that you do not have to leave the area after beginning installation.
- Use nonmagnetic tools.
- Before touching an electronic component, discharge static electricity by one of the grounding methods described later in this appendix. If you must leave the area during installation, remember to reground yourself before resuming installation.
- Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.
- If you remove a component, place it in an electrostatic-safe container.

## Grounding Methods

If installation instructions direct you to unplug the computer or an optional docking base, unplug it *after* being properly grounded and *before* removing the cover. Use one or more of the following grounding methods.

- Touch the unpainted metal surface or lug nuts on the connectors on the back of the computer or docking base. Avoid touching connector pins.
- Touch an exterior unpainted metal surface of equipment that is connected to an electrical outlet by a grounding plug.
- Use a wrist strap connected by a ground cord to the computer chassis. Wrist straps are flexible grounding straps with a minimum of 1 megohm  $\pm$  10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.

**NOTE:** If you need more information about static electricity or assistance with product installation, contact your Compaq authorized dealer, reseller, or service provider.

*appendix* **D**

SPECIFICATIONS

Computer Dimensions

Computer Dimensions		
Dimension	U.S.	Metric
Height	0.88 in	22.5 mm
Width	10.4 in	266 mm
Depth	8.9 in	228 mm

Operating Environment

Operating Environment		
Factor	U.S.	Metric
Temperature		
Operating	50° to 95°F	10° to 35°C
Nonoperating	−4° to 140°F	−20° to 60°C
Relative humidity (noncondensing)		
Operating	10 to 90%	10 to 90%
Nonoperating	5 to 95%	5 to 95%



Maximum altitude (unpressurized)		
Operating	10,000 ft	3,048 m
Nonoperating	30,000 ft	9,144 m

## Rated Input Power

Rated Input Power	
Input Power	Rating
Operating voltage	100–120/220–240 VAC RMS
Operating current	1.2/0.6 A RMS
Operating frequency range	50–60 Hz AC
When powered by a DC source	18.5V MAX
<b>NOTE:</b> This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 Vrms.	

## Port and COM Port Settings

Port and COM Port Settings				
Port	Port	Address	IRQ	DMA
Serial port		3F8h - 3FFh	4	
USB connector		2400-241Fh	11	
Parallel port		378 - 3FFh	7	3
Serial I/O connector	COM1	3F8h - 3FFh	4	
Infrared port	COM3	3E8h - 3EFh	3	5
Internal modem	COM2	2F8h - 2FFh	11	3
<b>NOTE:</b> If the computer is running Windows NT 4.0, the internal modem can also be set at COM4 and can also use IRQ 5 or 10.				

# Modem Specifications

Modem Specifications		
Temperatures		
Operating	32° to 167°F (0° to 75°C)	
Storage	−40° to 167°F (−40° to 75°C)	
Relative Humidity (non-condensing)		
Operating	−10 to 90% (−10 to 90%)	
Storage	−5 to 95%@102°F (−5 to 95%@ 39°C)	
Interfaces	Communications connector	Standard RJ-11 telephone connector
	Telephone, central office network	Internal DAA
Power Requirements	+3.3 volts +/-5%, +3.3 vaux +/-5%, +5 volts +/-5%	

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